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by MARY HERMAN, Thomas Jefferson University

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by WALTER J. MCNERNEY, President, Blue Cross Association

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by MAX FINE, Executive Director, Committee for National Health Insurance

The Disadvantages of National Health Insurance
by KEITH LEFFLER, University of Rochester

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by DOUGLAS CONRAD, Center for Health Administration Studies, University of Chicago

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In the first issue of our two-part symposium on health care in the United States, seven articles review the government's role in providing and regulating health care in the United States, the role played by the providers of health care, the quality and cost of health care facilities of all kinds, and the problems posed by modern pharmaceuticals. As our introductory article points out, "United States citizens are among the healthiest in the world."

The Nation's Health Today

BY RICHARD M. SCHEFFLER
Scholar in Residence, National Academy of Sciences, Institute of Medicine
and
LYNN PARINGER
Research Associate, Public Service Laboratory, Georgetown University

THE United States is continuing to spend an ever increasing share of its gross national product on medical care. Furthermore, the rate of increase of expenditures has also continued to grow. This growth has alarmed many health care experts. Moreover, most national health insurance proposals would further increase expenditures, although the marginal value of medical care in the United States is uncertain.

Today, United States citizens are among the healthiest in the world. In addition, over the past 45 years there have been some marked improvements in the health of the American people. There have been substantial decreases in death rates, particularly among infants under one, and continuing increases in life expectancy. Many of the illnesses that were once major causes of death, like tuberculosis, have been virtually eliminated and others, like diabetes, have been brought under control, enabling individuals with the illness to live long, productive lives.

In 1974, the death rate in the United States was 9.2 per 1,000 population. By contrast, the death rate in 1900 was 17.2 and in 1930 it was 11.3. In the 1970's, more than 65 percent of all deaths occur among individuals who are over 65 years of age. In 1930, this was true for only 36 percent of the deaths. The age group that has experienced the greatest reduction in death rates is infants under one year of age. In 1930, of every 1,000 babies born alive, 69 were not expected to reach their first birthday. Today, only 17.6 infants per 1,000 are expected to die in the first year of life.

Life expectancy is another method of estimating health improvements. An individual born in 1974 can expect to live an average of 71.9 years. In 1930, the expectation of life at birth was 58 years for males and 61 years for females; in 1900, life expectancy was 46 years for males and 48 years for females. Today life expectancy for females is somewhat higher than for males; 75.9 years compared to 68.2 years. Life expectancy for the white population is currently 72.7 years and for all others it is 67.0 years.

Today, the largest single cause of death is disease of the circulatory system. Diseases of the circulatory system represented 53 percent of all deaths in 1974. Cancer (neoplasms) ranks second as a major cause of death, claiming 19 percent of the deaths. In both 1930 and 1975, circulatory diseases were the leading cause of death. However, in 1930 diseases of the respiratory system ranked second in order of importance and infective and parasitic diseases ranked third while in 1975 cancer was the second leading cause of death.

Morbidity rates are the second major category of indicators that are used to evaluate the health status of the population. The National Center for Health Statistics collects yearly data on the extent of illness among the civilian population. Two major types of illnesses need to be differentiated. The first type is termed an "acute" illness; it includes all diseases and injuries

that last less than three months and for which the individual experienced some degree of activity limitation. The second type of illness is termed "chronic" and includes all those illnesses that generally last for a period of longer than three months. Acute illnesses include diseases like influenza, pneumonia, sprained ankles, headaches and most infectious diseases like measles, mumps and whooping cough. Chronic illnesses, on the other hand, include diseases like diabetes, high blood pressure, anemia, cancer and mental illness.

In 1974, 175.7 new cases of acute illness occurred among every 100 individuals in the civilian population. These acute illnesses caused an average of 9.4 days of restricted activity per person per year and 4.1 days in bed per person per year. Individuals in the work force could expect to lose 3.8 days from work in 1974 because of acute illnesses.

Of the 175.7 cases of acute illness per 100 persons, respiratory illnesses accounted for 94.4 cases or 54 percent. Injuries accounted for another 17 percent of the total. In terms of the total days that individuals were restricted in their activities by illnesses, respiratory diseases accounted for 44 percent of the 1.9 million restricted days experienced by the civilian population. Influenza was responsible for over one half of the restricted activity days. Injuries accounted for 23 percent of total days of activity restriction.

The second type of illness condition is a chronic or long-term health problem. Today, between 40 and 60 percent of the population report at least one chronic health problem. Approximately 14 percent of the population are limited in their activities as a result of chronic health problems and this varies tremendously by age. Among those under 17 years of age only 4 percent are limited in activities because of their health but among those over 65 years of age nearly 50 percent reported having health problems that limited activity.

In the 1970's there is increased concern about the relationship of lifestyle and chronic health problems. Many studies are currently under way to study the impact of individual behavior on health. Among the factors that appear to be linked to health problems are smoking, environmental pollution, obesity and diet. Increasing amounts of stress on the job have been related to problems like mental illness and alcoholism.

In fiscal year 1975, health care expenditures reached $118.5 billion and accounted for 8.3 percent of the economy's gross national product. A total of $547.03 was spent on health care for each member of the population. In contrast, in fiscal year 1929, medical care expenditures totaled $3.6 billion ($29.16 per person) and accounted for only 3.6 percent of GNP. Health expenditures have not only risen dramatically in the past 45 years; their growth rate has also been considerably faster than the growth rate in GNP. If this trend continues, a rising share of the total economic output will be devoted to health care.

The rise in health expenditures between 1930 and 1975 was caused by various factors. New technologies are often expensive. Increases in the size of the population are responsible for part of the increase. The change in the age distribution of the population has had a small impact on increasing health expenditures. The aged spend considerably more per capita on health care than the younger members of the population. Today, approximately 10.4 percent of the population is over 65, compared to 5.4 percent in 1930. Some increase in health expenditures has been caused by an increase in the proportion of the population that is aged.

General price increases are also partly responsible for the increase in expenditures. During the 1950's, prices for medical care rose about four percent per year compared to only about two percent for all consumer goods. Medical care prices continued to rise faster than general consumer prices until 1971 (4.3 percent for medical prices compared to 2.7 percent for general consumer prices). During the period 1971-1974, the growth in medical care prices was lower than that for all consumer goods. This can in part be attributed to the Economic Stabilization Program, which imposed price controls on the health care industry from August, 1971, until April, 1974. In 1975, medical care prices again rose faster than all consumer prices.

In addition to population and price changes, increases in the utilization of medical care services are responsible for part of the growth in health expenditures. In 1955, there were 117 hospital admissions per year for every 1,000 members of the civilian population. By 1973, this number had climbed to 153 admissions. Even more outstanding was the growth in outpatient visits to community hospitals, from 330 per 1,000 in 1955 to 860 in 1973. The increase in utilization of health care services is partly a result of rising incomes, which permit individuals to afford more health care. In addition, increased government third party payments have improved the availability of care to the aged and poor.

The tremendous growth in health expenditures has been accompanied by a shift in the source of payment for health care. In 1929, the public sector accounted for 13 percent of total expenditures. By 1975, its share had risen to over 40 percent of the total. This shift toward more public financing of health care occurred largely as a consequence of the introduction of Medicare and Medicaid in 1966. Medicare, the largest public program, designed primarily to provide health care for the elderly, the disabled, and persons with chronic kidney disease, accounted for $14.8 billion worth of total health expenditures in fiscal 1975. Medicare costs are borne primarily by the federal government. Responsibility for the financing of Medicaid, a public program designed to improve the health care given to the poor, is shared equally between the federal government and the state and local governments; Medicaid costs totaled $13 billion in fiscal 1975.

Medical care expenditures can be broken down into two additional categories; expenditures on personal health care and on non-personal care. Personal health care expenditures provide services that directly benefit the individual and include expenditures on hospital care and physicians' services. Non-personal health expenditures provide benefits to the entire community and include outlays for research, the construction of medical facilities, and public programs for disease control and detection.

In 1975, personal health care expenditures reached $103.2 billion, or 87 percent of total health expenditures. Individuals did not pay for all these expenditures out of their own pockets. About 40 percent of personal care expenditures are paid by the government. Private philanthropic contributions and services provided by industry contribute an additional small proportion. The remaining 59 percent of personal care expenditures are paid either by the consumer or by his insurance company. In fiscal 1975, nearly 45 percent of personal care expenditures not covered by government or philanthropy and industry were paid for by health insurance. In 1929, private health insurance financed an insignificant amount of personal care expenditures.

Expenditures on health care not paid directly by the consumer are paid for by third parties. Private third party payments are covered by health insurance, philanthropy, and industrial outlays. The government also represents a third party payer. The most important development in the field of health care financing has been the increasing share of personal care expenditures that are paid by third parties.

Today, about 90 percent of hospital expenditures for personal care and 60 percent of physician expenditures are paid for by third parties. In 1948, third party payments accounted for 28 percent of personal medical care outlays and by far the largest source of these payments was the government. During the 1950's, private health insurance payments grew rapidly so that by 1960 they nearly equaled the government's share of personal care payments. However, with the implementation of Medicare and Medicaid after 1966, the government's role as a third party payer again expanded; today more than 65 percent of all personal care expenditures are financed by third parties.

EMPLOYMENT IN THE HEALTH CARE SECTOR

The United States is the world's first service economy. More than half its work force is employed in the production of services instead of goods. Moreover, over two-thirds of the increase in employment since World War II has been in the service sector. The health care industry is one of the largest segments of the service sector. Overall employment in the health care industry increased from 2.6 million people in 1960 to 4.3 million people in 1970, an increase of almost 65 percent. Over the same period, employment grew by 18 percent for the economy as a whole.

More than three-fourths of those employed in the health sector are females. Furthermore, 13.6 percent of those employed are black, compared to the percentage of blacks employed in the economy as a whole —9.6 percent—in 1970. Clearly, women and blacks comprise a significant share of employment in the health care industry.

In 1973, there were 366,379 physicians, of whom 299,257 were involved in patient care. This is about 141 physicians in patient care per 100,000 population.[1] Of considerable interest is the distribution of these physicians among different medical specialties and locations. Many experts in the health field believe that the total number of doctors is adequate but that distribution is the real problem.

There was a dramatic decline in the number of general practice physicians between 1963 and 1973. On the other end of the spectrum, there was a 75.4 percent increase in radiologists. These facts point out the general trend of increased specialization. This increase in specialization is warranted, to some extent, because of the rapid increase in medical technology in the United States, but some critics believe that increased specialization has gone too far, at the expense of basic or primary care. Only recently have efforts been made to reverse this trend.

Nonfederal physicians are distributed unevenly in the United States. The northeast has the highest per capita number of physicians, and the south has the lowest. There are also distributional differences between rural and urban areas within states. There are further problems within cities, where physicians resist practicing in inner city areas.

In 1973, physicians' incomes after deducting business expenses averaged $49,415. The variation among specialties was significant; surgeons averaged $58,774, while pediatricians averaged $40,337. Anesthesiologists registered the largest increase in income during the 1968-1973 period, approximately 44 percent.

The nation's supply of dentists in 1972 was about 119,700. In addition, there were 169 allied dental personnel, most of whom were dental assistants. Although there were over 11,000 dental specialists, the vast majority of dentists were generalists. In 1970, the

(*Continued on page 229*)

[1]This figure included federal and non-federal physicians.

Richard M. Scheffler is an Associate Professor of Economics on leave from the University of North Carolina at Chapel Hill. He is currently a Scholar in Residence at the National Academy of Sciences, Institute of Medicine in Washington, D.C. **Lynn Paringer** will soon join the faculty of the Post Naval Graduate School.

"In the first century of its existence the federal government exercised almost no function with respect to individual or public health," notes this specialist. He points out that "historically, . . . the entering wedge for direct individual medical help to civilians by the federal government came by way of aid to veterans of the armed services."

Government and Health before the New Deal

By William G. Carleton
Professor Emeritus of History and Political Science, University of Florida

AT NO TIME in American history has any unit of government—local, state or federal—taken general responsibility for aiding non-indigent individuals in time of sickness. Until after the Civil War, even the state and local governments did relatively little in the way of sanitation and public health.

During the colonial period only alarming epidemics like smallpox and yellow fever aroused communities to take civic action. At such times a local committee was organized to evacuate the unaffected population to the countryside or to other communities, and the members of the committee, along with others who had recovered from the disease, stayed behind and waged the fight against the plague. Fires were kept burning in the streets, and very often gunpowder was exploded. Homes were "fumigated" by the burning of tar or sulfur, and often household articles and clothing were burned to prevent contamination. Frequently, neighboring communities would organize "shotgun patrols" to prevent refugees from the epidemic areas from coming near their own communities.

The earliest continuous intervention by government in the interest of public health was legislation by some of the colonial governments to prevent the spread of disease from "sickly vessels" arriving in port towns. Masters of ships were subjected to heavy fines for bringing such vessels into port or for failing to report sickness aboard. Coastal towns appointed quarantine officers to enforce these laws, to inspect ships, and to quarantine infested ships in the roadsteads. Later, some colonial port towns built marine pesthouses on sandy wastes or isolated islands to care for passengers and crews taken from contaminated ships. Still later, pesthouses were built for local residents suffering from epidemic diseases. Sometimes the local quarantine officer became the local health officer charged with marine inspection, the marine pesthouse, the local pesthouse, and with isolating families and fumigating homes where there had been smallpox. The remuneration of the quarantine or health officer and the costs of maintaining the pesthouses were borne by subsidies from the colonial governments, private subscriptions, and lotteries.

In colonial times there were few hospitals. For the most part, these were confined to the larger port cities and ministered only to the homeless, to seamen, refugees, runaway slaves and the destitute. Hospitals were financed by private subscription, local lotteries and, in a few cases, by subsidies from colonial governments. Sometimes local doctors or a religious parish would for a time maintain a local hospital for the chronically ill or the destitute. The oldest general hospital in the United States was established in Philadelphia in 1751 when the Pennsylvania Assembly agreed to "match" funds raised by private subscription.

Colonial governments took no responsibility for the training of physicians or even for their licensing. It is estimated that at the end of the Revolutionary War there were about 3,500 medical doctors in the United States, but less than 400 of these had received a medical degree. Most doctors with a medical degree had been trained in Europe. These became preceptors for medical students. A person who wanted to become a doctor became an apprentice to an established doctor who directed the apprentice's reading and used him as a helper in his practice. Medical education was thus "in training" education. Most people never saw a doctor, and even those who did commonly relied on midwives, home remedies, folklore, and quacks.

When the federal government was established in 1789, medical education, the licensing of physicians,

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the building and maintenance of hospitals, the care of the indigent sick, and public sanitation and public health were left almost entirely to state and local governments. Until the Civil War, responsibility was usually placed on private enterprise, public-spirited doctors and citizens, and religious and other voluntary organizations.

The training and licensing of physicians were left largely to the local medical societies. Increasingly, during the early and middle nineteenth century, local medical societies established proprietary schools. These were in no way connected with a university or college. Little preparatory education was required; courses were inadequate; and certification from one of these schools entitled the graduate to practice medicine. Reputable medical colleges connected with universities were growing, but most American doctors came out of the proprietary schools. Before the Civil War, state governments assumed little responsibility for training doctors, refused to regulate medical education, and allowed the licensing power to be exercised by the proprietary schools and the local medical societies, most of whose members feared that the raising of educational standards would jeopardize their own positions.

The first widespread government health measures were public regulations to rid communities of nuisances that produced bad odors. Behind this was the theory of miasmata as the cause of disease. This theory, which prevailed in the late eighteenth century and well into the nineteenth century, held that disease came from the air by way of bad odors from slaughterhouses, tanneries, decaying vegetable and animal matter, privies, cesspools, duck ponds, pigsties, stagnant waters, marshes and so forth. Smallpox was realized to be a truly contagious disease, but there was little understanding of the other communicable diseases, how they were transmitted from person to person, how agents might be carried by body lice, fleas, flies, mosquitoes, or appear in water and food that looked and smelled clean. During the early and middle nineteenth century most communities passed ordinances requiring the removal of filthy and evil-smelling nuisances or action to make them less foul-smelling. These ordinances were usually enforced by the ordinary local police officials, although a few communities established a local health officer or local board of health, almost always with little or no trained personnel. Thus miasmata, a false concept, led to government measures which inadvertently struck at many of the breeding places of disease.

In 1817, there were 17 community water supply systems in the United States, and 16 of these were owned and maintained by private companies. By 1860, 148 communities had public water supply systems and around 40 percent of these were owned by city or other local governments. Community sanitary sewage systems came somewhat later than community water supplies, but beginning around 1850 there was a noticeable increase in such systems. For the most part, the early sewage systems and disposal plants, like the community water supply systems, were owned and operated by private companies. Gradually these, like the water systems, were taken over by local governments.

A remarkable development of the 1840's was the assumption by many state governments of the care of the insane and mentally ill. Up to that time, these unfortunates were left with their families or poorly treated or mistreated in jails, prisons, and almshouses. By around 1850, 20 states had built and undertaken to maintain "asylums" for the insane. The crusade of Dorothea Dix was largely responsible for this momentous expansion of government responsibilities for the handicapped.

SANITARY CODES

During the 1850's ideas of environmental sanitation gained headway. Many more communities adopted sanitary codes, and such codes were greatly expanded in their coverage. At the same time, a strong movement was afoot to establish a national maritime and quarantine code. There were numerous state and national conferences on sanitation and quarantine. The outstanding leader in the field was Lemuel Shattuck of Massachusetts, who in turn was greatly influenced by the pioneers of public health in Europe. Most public health agitation was cut short by the Civil War, but it bore fruit afterward, and the great concentration of masses of men in the armies during the war itself added greatly to the American knowledge of sanitation, "crowd diseases," and nutritional ailments, and emphasized the need for state and local sanitary codes in civilian life.

In the first century of its existence the federal government exercised almost no function with respect to individual or public health. In 1796, an attempt was made to have Congress pass a law under which the federal government would make uniform national regulations covering maritime quarantine and enforce them. But states rights forces were too strong; the bill was defeated and maritime quarantine was left primarily to the states. However, a law was passed authorizing federal revenue officers to cooperate with each state in the execution of its maritime regulations.

Another conspicuous rejection of federal activity

(*Continued on page 223*)

William G. Carleton retired in 1961 after 30 years on the University of Florida faculty. He is the author of *Technology and Humanism: Exploratory Essays for our Time* (Nashville: Vanderbilt University Press, 1972) and is currently completing a book, *The Americans and Their Society: An Unvarnished Historical Panorama.*

Opposition to a national health program in the 1930's grew out of "intangible fears concerning the freedom and status of the physician. The greater the degree of federal involvement, implicit in any large-scale financing of medical services, the less presumably would remain of the traditional entrepreneurial individualism."

The New Deal and National Health

BY ROY LUBOVE
Professor of Social Welfare and History, University of Pittsburgh

SHORTLY BEFORE Franklin D. Roosevelt's election to the presidency in 1932, the Committee on the Costs of Medical Care (CCMC) issued its final report, thus igniting a controversy over the organization and financing of medical services. This intensified over the decade and reached a climax in 1939 when Senator Robert F. Wagner (D., N.Y.) introduced a bill to establish a national health program. The recommendations of the CCMC majority were vehemently denounced by the American Medical Association, whose *Journal* described them as "incitement to revolution" and the product of the "great foundations, public health officialdom, social theory—even socialism and communism."[1]

Organized in 1927, the CCMC consisted of approximately 50 physicians, dentists, public health experts, social scientists and representatives of other groups. Its chairman was Dr. Ray Lyman Wilbur, Secretary of the Interior in President Herbert Hoover's cabinet, and former president of the AMA and dean of the Stanford University Medical School. Neither Lyman's respectable credentials, however, nor the CCMC's evidence concerning inequities in the costs and distribution of medical services helped moderate the medical profession's indignation over the two key majority recommendations. The first of these urged the substitution of group practice in community medical centers for the lone physician operating on a fee-for-service basis. Specialization, progress in medical science and technology, wasteful duplication in overhead costs, the growing importance of the paramedical professions, the isolation of many physicians from "helpful contacts" with colleagues and hospitals, and the lack of coordination among general practitioners, specialists and medical institutions were cited.

The CCMC majority insisted that group payment plans were a necessary accompaniment to the community medical centers. No amount of organizational or administrative rationalization could reduce medical costs sufficiently to insure adequate care for the entire population. In emphasizing the need for new financing arrangements to distribute these costs more equitably, the CCMC demonstrated clearly that the problem lay not in the average medical costs which confronted the entire population or any subgroup, but in the unpredictable incidence of illness and costs.

In the opinion of the AMA the emphasis of the CCMC majority on community medical centers and pre-paid insurance plans, with or without tax support, raised the question of "Americanism versus sovietism for the American people." Supporting the traditional system of private practice and fee-for-service, the AMA extolled the "right of the American citizen to pick his own doctor and his own hospital, to pay his own bills with his own money, to be responsible to a doctor who is responsible to him."[2] Only thus could the personal relationship between physician and patient so indispensable to effective medical care be preserved. The reaction of organized medicine (the AMA with its county and state affiliates) to the majority recommendations of the CCMC foreshadowed the subsequent obstruction of efforts to incorporate health insurance in social security and establish a national program.

This obstructionism arose, in part, from the sincere belief that good medical care depended on free choice of physicians by patients and on the right of the medical profession to determine service standards and procedures for distributing them without interference from government officials or bureaucracies. However, the

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This article is excerpted from "The New Deal and National Health," by Roy Lubove, which originally appeared in *Current History*, August, 1963.

[1] "The Committee on the Costs of Medical Care," *Journal of the American Medical Association,* vol. 49 (December 3, 1932), 1951, 1952.

[2] "The Report of the Committee on the Costs of Medical Care," *Journal of the American Medical Association,* vol. 99 (December 10, 1932), p. 2035.

reluctance of organized medicine to endorse group practice or health insurance and its suspicion of government involvement in medical affairs also reflected an emotional, even irrational response to impersonal forces affecting medicine and American society.

As rarely before, the medical profession in the 1930's confronted a challenge to its self-esteem and status. It was surprised and resentful to discover that the American people were becoming increasingly critical of the profession's evaluation of its altruism and achievements, and that its ideals of the family physician and private fee-for-service were under attack as anachronistic. It feared that group practice and government-sponsored insurance programs would ultimately transform the physician into a harrassed, incompetent, salaried bureaucrat akin to the public health official.

ORIGINS OF A NATIONAL PLAN

Federal involvement in health and medical care through numerous relief and welfare programs, beginning in 1933, was instrumental in the evolution of a national health plan. These programs accustomed Americans to the use of federal funds for medical purposes, revealed unmet health needs among the population, and affirmed in principle that health was an essential component of tax-supported welfare services. The transition was easy from this principle to the conviction that any permanent social security program should provide for health and medical needs.

The Federal Emergency Relief Administration, as early as June, 1933, authorized use of its funds for medical care and supplies, nursing and emergency dental service. In the two-and-a-half years of its operation, the FERA not only helped provide remedial medical services for relief clients, but stimulated interest in health problems, especially in rural areas which lacked physicians as well as medical facilities of all kinds.

Like the FERA, other New Deal relief and welfare agencies played a role in directing attention to health needs and stimulating interest in a more effective, permanent national program. The effort devoted to health and sanitary conditions in Civilian Conservation Corps camps, for example, was acclaimed in public health circles. The Medical Service and Health Section of the Tennessee Valley Authority established employee medical centers at various construction sites, each directed by a medical officer; in addition, the TVA appropriated some funds to improve local health services for the protection of its employees. During its brief existence, the Civil Works Administration, in collaboration with the United States Public Health Service, was active in the control of malaria, spotted fever, and typhus, the sealing of mines and rural sanitation.

Both the Public Works Administration and the Works Projects Administration participated in numerous programs affecting health and sanitary conditions. By 1940, the PWA was responsible for the addition of some 120,000 hospital beds. Sixty-seven percent of the sewage treatment plants built between 1933 and 1940 were PWA projects. The WPA erected 100 hospitals and improved 1,422 others by June, 1938. This agency also lent skilled and unskilled personnel to health organizations and clinics of all kinds, and WPA employees conducted the National Health Survey of 1935-1936. Directed by the Public Health Service, the survey was the most comprehensive ever attempted. Its findings became the leading factual source for those active in the delineation of a national health program.[3]

FSA HEALTH INSURANCE

The Farm Security Administration was distinctive among New Deal welfare agencies in sponsoring, beginning in 1937, a health insurance plan for low-income farm families. By the end of 1940, the plan affected approximately 400,000 persons in more than 600 counties. The FSA experience illustrates why federal relief agencies were often forced to participate in health and medical care. FSA county supervisors, in close touch with borrower families, reported that defaults were frequently attributable to ill health. Borrowers sold livestock to pay medical bills and inadequate medical care resulted at times in avoidable deaths.

The FSA cooperated with state medical societies in preparing insurance plans. When mutual agreement was reached on general terms, the FSA then worked out detailed arrangements with county or district medical societies. The typical plan involved the pooling of family contributions in a common fund placed in charge of a trustee. Participating physicians, who had agreed on a uniform fee schedule, were paid from this fund on a pro rata monthly basis. Less frequently, FSA plans included the maintenance of a separate account for each family rather than a pooling of funds, and the employment of salaried physicians by associations of FSA families. For their insurance payments, ranging from $15 to $30 a year, the families received home and office care, emergency surgery and hospitalization, obstetrical and dental services and drugs.

The FERA, FSA and other temporary relief agencies performed a useful service in providing, directly or indirectly, for the medical exigencies of their clients. From the viewpoint of national health needs, however, their efforts were hopelessly inadequate. They lacked sufficient funds, direction and coordination. Equally important, their services were categorical rather than general in application, resulting in a conflict between eligibility requirements and need as the determinant of medical care. Passage of the Social Security Act in 1935 signified the true beginning of a national health program and opened a new era in the history of American health

[3]On the WPA and PWA see John M. Carmody, "The Federal Works Agency and Public Health," *American Journal of Public Health,* vol. 3 (August, 1940), pp. 887-894.

and medicine. In the 1930's, the federal government, for the first time, sponsored legislation to establish a comprehensive national health program, financed in part with federal funds and directed toward the elimination of inequities in the financing and distribution of medical services. The Social Security Act was a pivotal measure that provided a centralized machinery designed to correct some of these inequities, and a nucleus from which a more comprehensive national health program could evolve.

The Committee on Economic Security, on whose report the Social Security Act was based, emphasized that "illness is one of the major causes of economic insecurity which threaten people of small means in good times as in bad."[4] The close relationship between health and security, coupled with the inability of a considerable percentage of the population to command adequate medical care for lack of money, justified the incorporation of health provisions in any social security legislation, in the committee's opinion.

Thus Title V, Part 1 of the Social Security Act authorized an annual appropriation of $3.8 million for maternal and child health services administered through the states by the Children's Bureau. The Title stipulated that the funds would be provided to the states on a matching basis and apportioned as follows: $20,000 for each state which had prepared an approved plan; $1.8 million divided according to the live births in each state in proportion to the total number of live births in the United States; and $980,000 allotted on the basis of financial need. Title V, Part 2, authorized an appropriation of $2.8 million annually to assist states in locating crippled children, and providing them with hospital, medical and after-care services. Also administered by the Children's Bureau, this matching grant-in-aid program allotted $20,000 to each state, and divided the remainder according to the need of each state as determined by the number of crippled children on record.

Title VI of the Social Security Act authorized an annual appropriation of $2 million to the United States Public Health Service for investigation into disease and sanitation problems, and another $8 million to be distributed by the Surgeon-General to assist states and their political subdivisions in the improvement of public health services. The Surgeon-General was directed to distribute the $8 million according to the population, special health problems and financial needs of the respective states.[5]

IMPLICATIONS OF SOCIAL SECURITY

The implications of the Social Security Act were profound. It established a permanent machinery to distribute federal funds for health and medical purposes, and it took account of special needs and problems in the allocation of these funds. Thus it epitomized the two key premises from which the national health program of the 1930's evolved: 1) that the elimination of inequities, geographical and functional, in the distribution and financing of medical services necessitated national action, and 2) that need rather than ability to pay should determine the availability of medical care and public health services.

Omitted from the Social Security Act, of course, was any provision for health insurance, voluntary or compulsory. The subject had been considered at great length by the Committee on Economic Security, whose relationship with the AMA had been turbulent from the start.[6] Although the Committee offered no recommendations on health insurance in its report to the President in January, 1935, it indicated that research was in progress on a contributory plan that contemplated federal subsidies or grants to states that established insurance programs covering medical care, and cash benefits for wage losses during illness.

This was enough to arouse the AMA, which called the second special session of its house of delegates in its entire history. Convening in February, 1935, the delegates passed resolutions approving the Committee on Economic Security's recommendations on public health, condemning the administration of maternal and child health by the Children's Bureau, and smiting compulsory insurance. The house of delegates, however, made one significant departure from the AMA's previous position on health insurance when it cautiously endorsed voluntary plans controlled by state and county medical societies. Consequently, the AMA could no longer be accused of opposing all substitutes for fee-for-service.

(*Continued on page 224*)

[4] *Report of the President of the Committee on Economic Security* (Washington, D.C., 1935), p. 38. The Committee consisted of Frances Perkins, Secretary of Labor, Chairman; Henry Morgenthau, Jr., Secretary of the Treasury; Homer Cummings, Attorney General; Henry Wallace, Secretary of Agriculture; Harry L. Hopkins, Federal Emergency Relief Administrator.

[5] A few other provisions of the Social Security Act had some relation to health and medicine. Title V, Part 3 authorized an annual appropriation of $1,500,000 for child welfare services, and Title V, Part 4 authorized appropriations of $841,000 for the first two years and $1,938,000 thereafter for vocational rehabilitation. Federal assistance for this purpose was already in progress under an Act of 1920. Title X of the Social Security Act authorized an appropriation of $3 million and a "sufficient" sum thereafter for aid to the blind.

[6] Edwin E. Witte, *The Development of the Social Security Act* (Madison, Wisconsin, 1963), pp. 173ff.

Roy Lubove is the author of *The Professional Altruist: The Emergence of Social Work as a Career* (Cambridge: Harvard University Press, 1965), *The Struggle for Social Security: 1900-1935* (Cambridge: Harvard University Press, 1968) and *Twentieth Century Pittsburgh: Government, Business, and Environmental Change* (New York: Wiley, 1969).

In this discussion of the federal role in health care programs after 1945, this specialist notes that "The largest federal health programs, in terms of dollars and impact, have been Medicare and Medicaid, which in 1976 accounted for more than 70 percent of all federal health care spending."

Federal Involvement in Health Care after 1945

BY LEDA R. JUDD
Former Director of National Affairs for the National Urban Coalition

THE expansion of the health care sector of the American economy since World War II has been striking. In 1950, the United States spent approximately $12 billion on health care. By 1976, expenditures totaled $139.3 billion a year, and conservative estimates are that spending for health care will exceed $220 billion annually by 1980. In the ten years from 1965 to 1975, per capita expenditures rose from $198 to $547; in 1976, they reached $638. A family of four averages more than $2,500 per year on health care today. General Motors attributes $175 of the cost of each automobile it produces directly to the costs of health insurance for its employees, claiming that it pays more to Blue Cross/Blue Shield plans than it does to United States Steel, its major supplier. It is estimated that health care costs consume $1 out of every $9 the average worker earns.

Using the consumer price index as a measure of this growth provides us with an even more startling picture. While the CPI rose 98 percent overall between 1950 and 1974, physicians' fees rose nearly 168 percent and the cost of a semi-private hospital room rose more than 530 percent. Health care costs have, in fact, increased at a faster rate than other items in the CPI.

As spending on health has mushroomed, so has the role of the federal government, not only in paying for care but in the area of deciding how and where care would be delivered. In 1929, public expenditures accounted for 13.3 percent of the total expenditures on health. By 1950, the percentage had increased to 19.1 percent and by 1975 it had grown to 42.2 percent.

Chart I indicates the growth of this involvement. The bulk of the federal health dollar (69 percent) finances or directly provides health care services (14 percent). Most of the remainder supports the development of health resources through research (7 percent), manpower training (4 percent) or facilities construction (3 percent).[1]

The federal involvement in health began its expansion following World War II, and the growth rate accelerated with the passage of Medicare and Medicaid in 1965. Initially, federal involvement included paying for research, the construction of facilities and the education of health professionals. With the coming of the "War on Poverty" in the 1960's and the passage of Medicare and Medicaid, a federal role in both delivery of care and payment for care was created.

The government's involvement can be divided into seven broad general categories that cover most of its health activities: health research; health manpower training; construction of health facilities; prevention and control of health problems; provision of health services and the financing of care. The seventh and most recent area of federal involvement is the attempt at regulation of the health care field with primary emphasis on cost control. Regulation, of course, has an impact on each of the other areas of federal involvement.

HEALTH RESEARCH

The federal government has been involved in health research since 1878, when it created the United States Public Health Service and assigned it the task of investigating the causes and control of epidemics.

After World War II, expenditures for medical research from all sources expanded from 2 cents per capita in 1940 to $12.50 in 1974. The federal government's share of these expenditures has grown to more than 60 percent.[2] Some of this research is being carried out by the National Institutes of Health and related federal facilities, but most research is done at medical schools

[1] National Planning Association, Center for Health Policy Studies, *The Federal Health Dollar 1969-76,* February, 1977, pp. 6-7.

[2] *Ibid.,* p. 28. See also Nancy Worthington, "National Health Expenditures, 1929-1974," *Social Security Bulletin,* February, 1975.

and hospitals under federal grant and contract arrangements. This aspect of federal "involvement" in health care has met with almost no opposition from organized medicine.

Although significant advances in medical care have resulted from these federal monies, the emphasis that the medical schools placed on attracting the researchers—who could then attract the dollars—has tended to skewer health priorities.

For a time in the early 1960's, medical schools were turning out research-oriented physicians interested in cases with "research" implications and not interested in basic family care. They tended to locate where the most sophisticated research facilities were to be found. The federal government continues to support research, but its role in the area is not accelerating at the rate it did prior to 1965. Thus the medical schools are finding research monies harder to come by.

Estimates are that federal expenditures for health-related research will total just over $3 billion in fiscal year 1977, an increase from the $2.8 billion spent in 1976 and the $2.8 billion and $2.5 billion outlays for 1974 and 1975. While overall funds for health research are growing, health research investment is declining as a percentage of total health expenditures.[3] Many research projects now sponsored by the government are directed toward specific disease categories such as cancer. This has created arguments in the scientific community as to the appropriateness of this emphasis. This question and ethical questions surrounding genetic research are expected to generate continuing controversy.

HEALTH MANPOWER TRAINING

A student entering Georgetown University Medical School in Washington, D.C., in 1977 will pay a first year's *tuition* of more than $10,000. According to the university, this increase from $6,800 in 1976 (and $5,000 in 1975) is necessary because of a 1976 federal law redirecting funds available to medical schools for medical education. Before the passage of this 1976 law, the Health Professions Assistance Act, it is estimated that the federal government was paying 60 percent of the cost of each physician's education.

The government has traditionally been involved in providing training programs for personnel in Veterans Administration and Defense Department facilities. After World War II, the federal government made an effort to upgrade and improve the quality of care provided by the Veterans Administration (VA) hospitals. The affiliation of these hospitals with medical schools was authorized by Congress in 1946; by 1974, 116 VA hospitals had established these affiliations. Affiliation permitted more than 15,000 medical and dental students and more than 26 percent of the interns and residents in training in 1974 to receive training in VA hospitals. Nurses, psychologists, social workers and other health and health related professionals also were receiving their training in VA hospitals.[4]

Beginning in the late 1950's, the government began to play additional roles in the financing of medical education. In addition to the monies from research grants that were an indirect means of financing medical schools, a series of direct federal financing programs for medical education were enacted.

- In 1956, funds were authorized for traineeships for public health personnel and for advanced training for nurses.
- In 1958, formula grants were authorized for schools of public health.
- In 1963, a major program of institutional grants designed to remedy a shortage of health professionals was enacted. These grants were contingent on increased first year enrollments and provided funds for construction or improvement of medical school facilities and a variety of special projects. Over the years, these grants grew until they included not only physicians, nurses and dentists, but pharmacists, podiatrists, veterinarians, allied health professionals and schools of public health.
- In 1971, these grants were replaced by a new system of grants based upon a payment for each student enrolled (capitation payment), contingent upon increased first year enrollments. Start-up assistance to new schools was also provided.

As a result of this series of federal programs, by 1974 the government was largely responsible for the building of 21 medical schools, nine dental schools and a school of osteopathic medicine.[5] Medical schools increased the size of their entering classes from 8,298 students in 1960-1961 to 14,963 in 1974, an 80 percent increase.[6]

Increasing enrollments in health professions schools created a new problem—how to finance the cost of education for many of the students. Beginning in 1963, a series of federal loan and scholarship programs was enacted. These programs not only provided funds to students but, using loan forgiveness and scholarship provisions, gave the federal government some leverage with which to encourage students to practice in areas that lacked an adequate supply of health personnel or in areas of specialization that had been neglected. Congress also created a National Health Service Corps to encourage physicians to practice in isolated, doctor-short areas of the country. Students who joined the corps would receive ample scholarships in exchange for a commitment to practice for a specified period in an

[3]U.S. Department of Health, Education and Welfare (HEW), Public Health Service, *Forward Plan for Health FY 1978-82,* August, 1976, p. 84.

[4]HEW, Health Resources Administration, Health Planning Information Series, *Trends Affecting the U.S. Health Care System,* January, 1976, pp. 80-81.

[5]Jerome Brazda, "Medical Education: How Many Doctors Are Enough?" *Modern Health Care,* July, 1974, p. 16.

[6]American Medical Association, *Socioeconomic Issues of Health 75-76* (Chicago, Illinois: 1976), p. 193.

CHART I: Aggregate and Per Capita National Health Expenditures, by Source of Funds, and Percent of Gross National Product, Selected Fiscal Years, 1929-1976

Fiscal year	Gross national product (in billions)	Health expenditures								
		Total			Private			Public		
		Amount (in millions)	Per capita	Percent of GNP	Amount (in millions)	Per capita	Percent of total expenditures	Amount (in millions)	Per capita	Percent of total expenditures
1929.....	$101.3	$3,589	$29.16	3.5	$3,112	$25.28	86.7	$477	$3.88	13.3
1935.....	68.9	2,846	22.04	4.1	2,303	17.84	80.9	543	4.21	19.1
1940.....	95.4	3,883	28.98	4.1	3,101	23.14	79.9	782	5.84	20.1
1950.....	264.8	12,027	78.35	4.5	8,962	58.38	74.5	3,065	19.97	25.5
1955.....	381.0	17,330	103.76	4.5	12,909	77.29	74.5	4,421	26.47	25.5
1960.....	498.3	25,856	141.63	5.2	19,461	106.60	75.3	6,395	35.03	24.7
1965.....	658.0	38,892	197.75	5.9	29,357	149.27	75.5	9,535	48.48	24.5
1966.....	722.4	42,109	211.56	5.8	31,279	157.15	74.3	10,830	54.41	25.7
1967.....	773.5	47,879	237.93	6.2	32,026	159.15	66.9	15,853	78.78	33.1
1968.....	830.2	53,765	264.37	6.5	33,725	165.83	62.7	20,040	98.54	37.3
1969.....	904.2	60,617	295.20	6.7	37,680	183.50	62.2	22,937	111.70	37.8
1970.....	960.2	69,201	333.57	7.2	43,810	211.18	63.3	25,391	122.39	36.7
1971.....	1,019.8	77,162	368.25	7.6	48,387	230.92	62.7	28,775	137.32	37.3
1972.....	1,111.8	86,687	409.71	7.8	53,214	251.50	61.4	33,473	158.20	38.6
1973.....	1,238.6	95,383	447.31	7.7	58,715	275.35	61.6	36,668	171.96	38.4
1974 1/.....	1,361.2	106,321	495.01	7.8	64,809	301.74	61.0	41,512	193.27	39.0
1975 1/.....	1,452.3	122,231	564.35	8.4	71,361	329.48	58.4	50,870	234.87	41.6
1976 2/.....	1,611.8	139,312	637.97	8.6	80,492	368.61	57.8	58,820	269.36	42.2

1/ Revised.
2/ Preliminary.

Source: Social Security Administration, "Research and Statistics Note No. 27," December 22, 1976.

CHART IV: Medicaid Payments Adjusted for Increases in Recipients and Prices, Fiscal Years 1968-76

Fiscal year[1]	*Medical payments (in billions)*	*Medicaid recipients (in millions)*	*Payments per Medicaid recipient*	*Medical care price index*[2]	*Payments in constant dollars per recipient*
1968	3.45	11.5	$300	100.0	$300
1969	4.35	12.1	361	106.9	338
1970	5.09	14.5	351	113.7	309
1971	6.35	[3] 18.0	353	121.0	292
1972	7.35	17.7	414	124.9	331
1973	8.71	18.5	472	129.8	364
1974	9.74	21.1	461	141.8	325
1975	12.09	22.5	538	156.2	344
1976	14.06	23.2	606	170.8	355

[1] For 1968–70, table includes payments and recipients under the Kerr-Mills program.
[2] Medical care price index of Bureau of Labor Statistics with adjustment to make 1968 equal to 100; estimated for fiscal year 1976.
[3] Includes some recipients of aid under nonfederally matched assistance programs.

SOURCE: Data on the Medicaid Program: Eligibility, Services, Expenditures, Fiscal Years 1966–76. Reported in U.S. House of Representatives, Committee on Interstate and Foreign Commerce, Subcommittee on Health and the Environment. Medical Services Administration, Social and Rehabilitation Service, Department of Health, Education, and Welfare. *U.S. Government Printing Office, Washington, D.C., January 1976.*

underserved area. In 1975, there were 551 health professionals in 268 communities throughout the country.

It was hoped, of course, that once physicians were situated in these areas they would remain, thus easing the shortage and rectifying the severe maldistribution of health resources in this country. This does not seem to have occurred. Geographic maldistribution of health personnel and resources remains one of the serious unsolved problems of the health care system.

The newly enacted Health Professions Assistance Act attempts to use federal funds to remedy this problem. Authorization of funds for the National Health Service Corps will be enlarged; medical schools are required to train specified numbers of residents in primary care in order to obtain funds; student loan and loan repayment programs are to be more restrictive unless students agree to practice in shortage areas; more scholarships are to be provided to needy students; and restrictions will be tightened on the entry of foreign medical graduates.[7] No federal manpower program has yet had any significant impact on where physicians chose to practice; and it remains to be seen if this one will.

CONSTRUCTION OF HEALTH FACILITIES

In addition to contributing a large share of the monies needed to build medical and other professional schools, the federal government also has paid out more than $5 billion in grants and loans to build hospitals. This money was channeled through the Hospital Survey and Construction Act of 1946 (the Hill-Burton act). Hill-Burton provided the necessary financial impetus for the rapid growth of hospitals.

During the depression of the 1930's and World War II, hospital construction came to a halt. Hill Burton was enacted to remedy what was considered to be a shortage of hospital beds—particularly in smaller towns and cities. Subsequent amendments authorized grants for the construction of other types of health facilities and for the replacement of obsolete facilities, with a priority for requests from urban areas. Recent years have seen a shift from direct grant funds to loans and loan guarantees, and from the construction of new hospitals to the modernization or addition of services like outpatient clinics to existing facilities.

It is generally agreed that there is no longer a shortage of hospital beds. Indeed, it is claimed that we are oversupplied. The federal share of national expenditures for health facilities construction dropped by about 30 percent between 1965 and 1975.

During its 29-year history, the Hill-Burton program appropriated and spent over $4.1 billion in grant funds for construction or modernization; more than $1 billion in loan principal (either direct or guaranteed) was also committed. A total of 11,493 grant projects were approved, accounting for nearly 496,000 beds in hospitals and long-term care facilities, as well as 3,450 outpatient and other health care facilities. More than 3,969 communities have been aided in the construction or modernization of 6,549 public and non-profit facilities.

Of the $14.5 billion which these projects cost, the Hill-Burton share was $4.1 billion, 28 percent of the total. The other $10.4 billion came from state and local sources. Without Hill-Burton funds as seed money, many of these projects would not have been initiated.[8] Hill-Burton was successful in increasing not only the supply but also the quality of health care facilities. The very success of the program, however, is now creating problems since the existence of all of these facilities contributes to the bias of the United States health care system in favor of in-hospital care. Often this bias operates at the expense of the development of less costly alternative modes of care.

Pressures are mounting to close down inefficient facilities, to merge and share services like obstetrics within a geographic area and to experiment with out-of-hospital care, but these alternatives face strong opposition from a variety of opponents, including local groups who do not want to see "their community" lose the prestige of a hospital and health professionals and administrators who are protecting their "turf."

PREVENTION AND CONTROL OF HEALTH PROBLEMS

As costs of health care escalate, so do the cries that if we spent more on preventive care, we would spend less on sickness care—and prevention is cheaper. Many federal agencies are involved in the prevention and control of health problems. Yet exclusive of the work of the Environmental Protection Agency all these efforts amount to only approximately three or four percent of all federal expenditures for health. In 1976, the federal government reported approximately $1.3 billion in expenditures for all disease prevention, environmental control and consumer protection programs.

From the National Center for Disease Control established in 1946 to the new National Center for Health Education established in 1976, a myriad of federal organizations have worked on pieces of the prevention problem. Agencies whose functions are directly related to the prevention of disease and ill health and the maintenance of a healthy population include the Occupational Safety and Health Administration in the Department of Labor, the Food and Drug Administration, and the Environmental Protection Agency.

All these agencies have been accused of inadequately protecting the nation's health. They, in turn, have charged that they are underfunded and understaffed and

[7]HEW, Health Resources Administration, "Fact Sheet: Health Professions Educational Assistance Act of 1976 (PL 94-484)," December 6, 1976.

[8]HEW, Health Education Administration, "Fact Sheet, The Hill-Burton Program," September, 1974.

that many of their goals can only be reached by improving American "health habits" and awareness.

Most health professionals believe that in the absence of a major scientific breakthrough, like a cure for cancer, expanding the health system will produce only marginal improvement in the health of the population. It becomes more apparent almost daily that our health is influenced by environmental and occupational factors over which individuals have relatively little control. Our society is becoming painfully aware of the trade-offs and painful choices that must be made if we are to maintain a healthy environment.

In this area of prevention and control of health problems, with special emphasis on health education, and environmental and occupational health, we can anticipate the continued growth and expansion of federal involvement.

THE PROVISION OF HEALTH SERVICES

The federal government "provides" health services to certain populations directly through programs like the clinics and hospitals that serve Armed Forces personnel and their families and the extensive network of veterans (VA) hospitals. Disabled seamen, Indians, and federal prisoners also are direct recipients of federal care. Of the total federal health expenditures in 1974, about 8 percent went for Defense Department health facilities and another 8 percent for VA facilities.[9]

The government also provides care indirectly through grants to state and local governments, institutions and organizations to provide services to particular populations. Generally, these programs serve needy persons. Most of these programs have been established since World War II and grew out of the government's concern over the inadequacy of services available to certain groups at risk in our society—children, the disabled, the poor.

Among these programs are maternal and child health programs that provide health services for pregnant women, infants, and children with certain handicapping conditions (services are provided primarily in rural and economically depressed areas); rehabilitation programs providing support for state and local programs for treatment of disabilities from diseases like epilepsy, stroke, and cerebral palsy; family planning programs; alcohol and narcotic treatment programs; programs and facilities for the mentally retarded; community Mental Health Centers that serve approximately 1 million people per year; programs to develop and improve emergency medical services on an area-wide basis.

One of the most effective government programs has been the financing of neighborhood health centers, and migrant health centers. Initially established by the Migrant Health Act of 1962 and the Economic Opportunity Act of 1964, approximately 160 of these centers serve almost 2 million people across the country.

In 1976, the total outlay for all these programs, including the National Health Service Corps, which is included with these programs for budget purposes (and some other smaller programs) totaled about $1.1 billion—less than three percent of the total federal health budget.[10]

These programs have brought quality care to people who need it, but they have only filled in gaps—they have not made any significant impact on the organization and basic health care delivery system in this country. People who can pay and who have private health insurance generally use a private physician; those who cannot pay often rely on federal programs. These programs have been criticized as perpetuating a "two-class" medical care system, with those who can pay receiving one kind of care, and those who cannot, a lesser quality of care.

Nonetheless, the federal government will probably continue to support these programs and encourage their development as models of how care could be delivered to a larger public.

FINANCING CARE

These federal programs account for less than one-half of the federal expenditure for health. The largest federal health programs, in terms of dollars and impact, have been Medicare and Medicaid, which in 1976 accounted for more than 70 percent of all federal health care spending.

By terms of the Social Security Amendments of 1965, Medicare and Medicaid established a major role for the federal government in financing health care. The government had enacted several minor programs as forerunners, particularly the 1960 Kerr-Mills act, which authorized federal/state cost-sharing for the health needs of certain aged persons. But these early efforts at providing care for the aged and poor amounted to only about $550 million.

Briefly, Medicare, Title 18 of the Social Security Act, provides health insurance to persons aged 65 years and over who are eligible for social security. Medicaid, Title 19, is a federally assisted state program that offers health benefits to low-income individuals on public assistance and, in some states, to those regarded as "medically needy" because their incomes are only slightly higher than welfare standards. Depending on the per capita income of a state's population, the federal government pays between 50 and 78 percent of the costs of a state's Medicaid program. Within broad federal guidelines, the states determine the eligibility of recipients, the scope of services provided, and the amounts paid to providers.[11]

[9] *Trends Affecting U.S. Health Care System, op. cit.*, p. 110.

[10] *The Federal Health Dollar: 1969-1976, op. cit.*, p. 20.

[11] Keith M. Weikel and Nancy A. Leamond, "A Decade of Medicaid," *Public Health Reports*, vol. 91, no. 4 (July-August, 1976), p. 303.

The Medicare and Medicaid programs have grown so rapidly that in 1975 they accounted for more than $27.7 billion in health spending. Charts II and III indicate the growth of these programs and how the money was spent. (See inside back cover.)

These programs have come under increasing fire. Allegations of scandal, particularly in the Medicaid program, of mismanagement, of fraud and abuse by providers, appear almost daily, tending to obscure the programs' tangible benefits to the aged and the poor.

MEDICARE

Medicare, the largest of the federal health financing programs, is a health insurance program in two parts: Part A, the hospital insurance program, and Part B, the supplementary medical insurance program. The hospital insurance program covers hospital, long-term and home health care and is financed by Social Security taxes. Part B covers physician fees, out-patient hospital services, and other selected services like physical therapy. It is financed through a monthly premium (currently around $7) paid by the enrollee and by general federal tax revenues. Over 95 percent of Americans aged 65 and older are covered by Part A and most of those persons also elect Part B.[12] Medicare also requires that beneficiaries pay a "deductible" (the first $92 of their hospital bill) and "co-insurance" (a portion of each day's hospital bill after 60 days).

Medicare, of course, accounted for an increase in the utilization of health services by the elderly. After Medicare went into effect, the use of these services by persons over 65 increased more than 25 percent; and, as utilization increased, so did costs.

Both hospital charges and physician fees began to spiral upward. The massive infusion of federal funds contributed to this growth for several reasons: doctors and hospitals no longer needed to provide any free or "charitable" care, because money was available to pay almost everyone's bills; more patients could afford to use more medical and hospital services, and did; and, most important, except when price controls were in effect under the economic stabilization program, doctors could raise fees with impunity, because Medicare payments to providers were based on the "customary" fees charged by physicians in a given location.

Despite these problems, Medicare has undoubtedly improved the quality of care received and has enlarged access to care. A variety of federal standards for participating providers have been established. These standards range from record-keeping provisions to a review of the utilization patterns of the facility. They have upgraded the quality of care, particularly in smaller hospitals.

[12] *Trends Affecting U.S. Health Care System, op. cit.*, pp. 118-119.

[13] Jonathan Spivak, "The Cost of Care," *Wall Street Journal*, March 25, 1977, p. 1, col. 1.

MEDICAID PROGRAMS

Because Medicare is a totally federal program, it has avoided some of the serious problems affecting Medicaid. Medicaid is a federal/state program. Each state administers its own Medicaid program and determines its own eligibility requirements and benefit package, although the federal government has established minimum requirements. The federal share is based on a complicated formula, involving per capita income in the state. In effect, Medicaid is tied to the "welfare" system; it is run like a welfare program and has inherited all the problems associated with the welfare system.

Inequities abound in Medicaid. Because the federal contribution depends on the size of the state's program and because larger, wealthier states have better programs, they tend to receive larger dollar contributions from the federal government. Because the states have such leeway, wide variation in benefit levels occur from state to state. For example, in 1972, average medical payments ranged from $50 in Mississippi to $1,150 in New York. Three states—New York, Massachusetts, and California—spend 50 percent of all Medicaid funds. The poorest, most rural states have the most inadequate programs.

When the Medicaid program was established, estimates of its growth were modest. The reality has far exceeded expectations. Chart IV indicates the growth of the program since its inception. The sixfold increase in Medicaid expenditures has been a major source of dissatisfaction. The governors, for example, are now claiming that Medicaid is their number one financing problem; they allege that it is forcing them to bankruptcy. According to a report from the National Governor's Conference:

> Medicaid has become the most rapidly escalating cost of state budgets. From a modest beginning of $250 million a decade ago, the program's annual cost has grown to $18 billion. By 1980, it's expected to surpass $30 billion, more than the entire national budget of most countries.[13]

Because of these unmanageable costs, the governors are

(*Continued on page 227*)

Leda R. Judd has served as a consultant for the National Association of Community Health Centers, the National Blue Cross Association, the American Public Health Association, and several government agencies. She was formerly the Director of National Affairs for the National Urban Coalition, Staff Director of the Citizens Board of Inquiry into Health Services for Americans, and has served on the General Counsels Staff of the U.S. Commission on Civil Rights. She has written numerous articles and monographs on health problems of the underserved, and on health legislation and urban problems generally.

"Trends in the training and employment of health workers and trends in their earnings do much to determine the availability and quality of health care for Americans, and the cost of that care."

Health Employment and the Nation's Health

By Christine E. Bishop
Assistant Professor of Economics, Boston University

HEALTH workers are the ultimate producers of health services. One cannot imagine health care without their experienced observation, diagnostic judgment and caring hands, and their overriding sense of responsibility to their patients. It is no surprise that the salaries of health personnel constitute a large share of the cost of health services.[1] Because of their diversity, it is difficult to generalize about health workers. Some, like physicians and dentists, receive many years of scientific training, and are permitted under law to take full responsibility for diagnosis and treatment of patients. Others, like nursing personnel and technicians of many types, have shorter, more specific training and are hired by hospitals and other providers to care for patients under supervision. Still others, like secretaries, maids, and food service workers, have little training specifically related to health care but perform necessary functions in our health institutions. Trends in the training and employment of health workers and trends in their earnings do much to determine the availability and quality of health care for Americans, and the cost of that care.

Physicians and dentists are at the pinnacle of the health occupational structure. They undertake long educational programs at professional schools at great expense to themselves and with large direct and indirect public subsidy. Many pursue specialty training. Although a number of career paths are open to them, including research, teaching, and salaried employment, most work as independent entrepreneurs in individual or group private practice. They are typically paid by their patients or by their patients' insurance, private or government, on a fee-for-service basis.

There were 379,748 physicians in the United States in 1974, about one for every 550 Americans.[2] Yet people in many parts of the country, especially in isolated rural areas and central cities, have difficulty finding a family physician, both to provide care when they are acutely ill and to provide the kind of comprehensive continuous care which, over a lifetime, may prevent disease. Does this mean that there is a shortage of physicians? It is easy to see how a shortage might arise. Medical schools are very expensive to establish and operate, and for many years the number of places in medical schools did not expand as rapidly as the growing demand for physician services induced by population growth, rising incomes, and increased insurance coverage.[3] In addition, the "pipeline" of medical education is a long one; a college graduate entering medical school can be licensed to practice only after four years of study followed by a year of internship at a hospital; and most new graduates seek specialty training in residency programs of two years or more. Year after year, experts have estimated our national "need" for physicians, usually based on ideal physician-population ratios, and have demonstrated that future shortages are inevitable, given the rate of production of new physicians. In response, state and federal assistance to medical schools has encouraged their rapid expansion: while 7,574 new physicians were graduated in the academic year 1965-1966, by 1975-1976 medical schools graduated 13,561, a 79 percent increase in the rate of production of new physicians in ten years.[4] But the increase in the number of physicians has not solved the problem of access to medical care for many Americans. Statistics reveal a wide variation in physician-

[1] A study of the distribution of health expenditures has estimated that over half of our total health expenditures went to personnel costs in a recent year (1967). See Harold S. Luft, "National Health Care Expenditures: Where Do the Dollars Go?" *Inquiry,* vol. 13, no. 4 (December, 1976), pp. 344-363.

[2] U.S. Department of Health, Education and Welfare (HEW), *Health Resources Statistics 1974* (Washington, D.C.: Government Printing Office, 1974).

[3] See Rashi Fein, *The Doctor Shortage: An Economic Diagnosis* (Washington, D.C.: Brookings Institution, 1967); American Medical Association, "Medical Education in the United States, 1975-1976," *Journal of the American Medical Association,* vol. 236, no. 26 (December 27, 1976), pp. 2924-3090; and Rashi Fein and Gerald I. Weber, *Financing Medical Education* (New York: McGraw-Hill, 1971).

[4] There has been no shortage of young people seeking medical careers. In 1975-76, 42,303 people applied to medical school, but only 15,365 were accepted. *Ibid.*

population ratios by location: in 1974, these ranged from 78 per 100,000 in South Dakota to 237 per 100,000 in New York.[5] In 1970, 132 counties in the United States had no physicians, an increase of 34 since 1963.[6] Compounding geographical maldistribution is the long-run decline in the availability of physicians providing primary care, which stood at 94 per 100,000 population in 1931 and has fallen to 55 per 100,000 in 1974.[7] (Primary care practitioners include general practitioners, pediatricians, internists, and physicians in a newly developing specialty, family practice. Residency training, i.e., hospital training beyond internship, is not required for general practice.)

A large inflow of physicians trained abroad has been permitted and even encouraged because of the perceived shortage of physicians. In 1974, 21.8 percent of United States physicians were educated abroad and foreign medical graduates (FMG's) held almost one-third of all internship and residency positions. FMG's in general appear to be less well prepared than American graduates, and questions have been raised about the influence of our dependence on FMG's on the quality of American medical care.[8] In addition, an increasing number of American citizens, rejected by medical schools in the United States, are attending medical school abroad and hoping to return to the United States as transfer students, or for postgraduate training and practice.

[5]U.S. Department of Health, Education and Welfare (HEW), Bureau of Health Manpower, *Annual Report Fiscal 1976*, DHEW Pub. no. (HRA) 77-79, (Washington, D.C.: Government Printing Office, 1976).

[6]Ross Mullner and Thomas W. O'Rourke, "A Geographic Analysis of Counties without an Active Non-Federal Physician, United States, 1963-71," *Health Services Reports*, vol. 89, no. 3 (May-June, 1974), p. 256.

[7]Lauren LeRoy, *Government Relations Note*, National Health Council Inc., vol. 2, no. 10 (October 8, 1976); See also Hymark Schonfeld, Jean F. Heston, and Isadore Falk, "Number of Physicians Required for Primary Care," *New England Journal of Medicine*, vol. 286, no. 11 (March 16, 1972), pp. 571-576.

[8]See Robert J. Weiss et al., "The Effect of Importing Physicians—Return to a Pre-Flexnerian Standard," *New England Journal of Medicine*, vol. 290, no. 26, pp. 1453-1458; and Rosemary Stevens and Joan Vermuelen, *Foreign Trained Physicians and American Medicine*, DHEW Pub. no. 73-235 (Washington, D.C.: Government Printing Office, 1972).

[9]For a concise review of this legislation, see Lauren LeRoy, *op. cit.* The hearings on this legislation held by the Senate Subcommittee on Health of the Committee on Labor and Public Welfare in 1974 and 1975 include good background information on maldistribution of physicians and foreign graduates.

[10]American Medical Association, *Profile of Medical Practice 1975-1976* (Chicago: American Medical Association, 1976).

[11]HEW, Social Security Administration, *Medical Care Expenditures, Prices and Costs*, DHEW Pub. no. (SSA) 75-11909 (Washington, D.C.: Government Printing Office, 1975).

[12]American Medical Association, *Profile, op. cit.*

The Health Professions Education Assistance Act of 1976 is a further attempt by the federal government to address these problems.[9] It provides support to medical schools only if a substantial proportion of their affiliated residency positions (50 percent by fiscal year 1980) are in primary care specialties; a scholarship program is established to pay tuition, expenses, and a stipend to medical students who agree to practice in designated underserved areas; and the problem of underprepared FMG's wishing to immigrate to the United States is addressed. This legislation is the most far-reaching attempt so far to influence the distribution as well as the supply of health professionals, in recognition of the impact of distribution on the quality and availability of health care for the American people.

Paying the Doctor. The availability and quality of medical care are also affected by the way physicians are paid in our health care system. While a significant proportion of their work is performed in hospitals, most physicians are not paid by these health institutions, but by their patients, on a fee-for-service basis. Physicians earn more if they perform more fee-generating services, and they typically work long hours: non-federal physicians in office practice worked an average of 49.9 hours per week in 1974.[10]

They also earn more if fees rise. For most goods and services, price directly influences the consumer's decision; he or she evaluates carefully whether the item is worth its price, and high prices are likely to discourage purchases. The prices of physician services do not play this role for many consumers, who are covered by private health insurance or by government health programs (Medicare and Medicaid) for in-hospital physician care and, increasingly, for some outpatient care as well. Physicians have apparently been able to raise fees without reducing the demand for their services or affecting the financial situation of individual patients, since third parties (insurance companies and government agencies) pay the bills.

Physician fees have been one of the most rapidly rising components of the consumer price index (CPI), increasing 70.8 percent between 1965 and 1974, while the consumer price index as a whole rose 56.3 percent.[11] (The recent rate of change in fees has been somewhat less than the rate of change of the CPI). Of course, physicians expect to recover their expenses for office equipment, personnel, and supplies, and to make a net income for themselves. That physician incomes are high is to be expected for workers who make such a large time and money investment in their training: the average net income for non-federal physicians in office-based practice was $51,224 in 1974.[12] However, studies have found that the investment in medical education produces a rate of return significantly higher than other training and financial investments an individual might make; estimates for the rate of return to medical education range from 15 percent to 18 per-

cent.[13] High incomes mean that subsidies to induce physicians to practice in areas or specialties where they are most needed are unlikely to be effective, since physicians can apparently do well in most of the locations or specialties they might choose. Rapidly rising fees feed health cost inflation, and physician fees are clearly a significant component of rising national health expenditures.

Plans and programs to improve the availability and quality of health care in this country and to control its total cost may involve changes in the way physicians are paid. Under a prepaid group practice arrangement, for example, individuals pay the group practice organization a premium or capitation which covers all health care for a year. If physicians, who make most decisions about patient care, choose less costly modes of care when appropriate (for example outpatient care instead of in-hospital treatment for certain conditions) and avoid tests and procedures that have only marginal value for patient health, savings can be returned to the organization for distribution to physicians and/or the membership. Physicians are thus not paid for doing more to patients, but are rewarded for saving costs and maintaining member health (hence the term "health maintenance organization," or "HMO's," which applies to both prepaid group practice and fee-for-service foundations for medical care). Public policy has encouraged the growth of prepaid group practice, and any comprehensive national health insurance program may be expected to further reinforce any cost-saving aspects of this practice. It has been argued that physicians will not work as long hours for salaries or group rewards as they work for individual fees; this may prove true, but is less of a cause for concern in light of our expanding physician supply.

Dentists. Like medical students, dental students enter four-year professional schools after graduation from college. They may seek training after completing basic dental education. There were 105,400 dentists active in 1972; most were in private practice and were paid on a fee-for-service basis. With federal and state support and encouragement, dental schools have been increasing their output of trained dentists; the number of graduates rose 65 percent, from 3,360 to 5,529, between the academic years 1966-1967 and 1975-1976, and the ratio of active dentists increased from 49 to 51 per 100,000 population between 1965 and 1974.[14] Like physicians, dentists are not evenly distributed geographically, and the proportion active in general practice, while high, appears to be declining. In 1972, the number of active civilian dentists per 100,000 civilians ranged from 26 in South Carolina to 68 in New York; and the number of dentists active in specialty practice has risen from 4.6 percent in 1960 to 10.5 percent in 1972.[15] Partly as a result of this maldistribution, many Americans do not receive preventive or acute dental care. However, because relatively few consumers hold dental care coverage under private or government insurance programs, dentist fees and inability to pay for care are likely to be more significant barriers to seeking dental care than they are for physician services. Therefore, increases in dental personnel and improvement in their distribution may not be effective in getting care to those who need it most.

OTHER HEALTH WORKERS

Over 4.2 million people, about one-twentieth of the labor force, were employed providing health services in 1970. Fewer than half a million were physicians, dentists, and other independent professionals. Who are the rest and what do they do? There are actually more workers filling clerical, service and managerial jobs in the health care sector than are providing the specialized professional and technical services we tend to associate with health care. We will consider the training and supply of specialized technical workers, sometimes called "paraprofessionals," or "allied health workers," before returning to the health labor force as a whole, which includes many workers who could find employment in their occupations in other industries.

Allied Health Workers. The training for entry into the allied health field ranges from short post-high school courses and on-the-job training in health institutions to doctorate-level preparation. Because of rigid certification and credential requirements, this training is seldom transferable from one health job to other closely related jobs; in other words, even though trained individuals have learned a great deal about health and illness both formally and through on-the-job experience, they cannot easily build on these basic skills and understanding and transfer them to the next job up the occupational ladder.

An example of this is found in nursing. Nurses' aides who care for hospitalized patients receive short training courses in particular hospitals and can build up years of valuable experience about patient care on the job. No matter how competent, to fill a position as a practical nurse, an aide would have to complete a year-long formal course for certification, and would receive no credit for on-the-job training.[16] To work as a professional nurse, one must enter an occupation-specific training program, and previous training and experience at lower levels of nursing count for nothing. At the registered nurse level, further distinctions are drawn among nurses with two years of college training, who hold associate degrees; those with three years of hospital-based training, who have spent four years in college for a B.S. in nursing. Only these last can enter

[13]Fein and Weber, *op. cit.*, Appendix C.

[14]HEW, Bureau of Health Manpower, *op. cit.*

[15]HEW, *Health Resources Statistics 1974*, pp. 72, 73.

[16]The pronoun "her" is used advisedly: 75 percent of the workers employed in the health sector in 1970 were female.

master's degree programs providing specialty training. Increasingly, hospitals are selecting nurses with baccalaureate and even graduate level training for more highly paid and more responsible nursing positions, effectively barring from advancement those with lesser credentials.

This situation, in which training leads to certification at a specific level and is not transferable to other levels, applies to many health occupational groups. Certification and licensing programs have been sought by these groups themselves both to uphold standards of training and, it appears, to limit employment in certain jobs to their own members. Licensure restricts specific health care tasks to individuals with specific training credentials. This means that health workers, more than most workers in our economy, are locked into essentially dead-end jobs with few advancement possibilities. Trained workers are like pegs of a specific shape, with jobs as slots of equal specificity; a mismatch can be costly both for workers and employers and for the public. Shortages of key personnel can arise if training has not kept ahead of demand; for example, for many years, hospitals found registered nurses in short supply.[17] On the other hand, more individuals may be trained than there are jobs available, leading to unemployment for trained workers and wasting the investment in their training. Policymakers have responded to the credentialing situation with a moratorium on licensure of new allied health occupations and the development of credentials based on proficiency.

Other Health Employees. A full consideration of the health labor force and its impact on the American health system must include the many health sector employees who are not specifically trained in health care, maids, food service workers, secretaries and managers, who are employed in institutions, clinics, and health professionals' offices. The number and wage rates of these workers affect health costs. It should also be recognized that changes in the health system may lead to unemployment for this group, which includes a disproportionate number of people (women, blacks, unskilled service workers) who may be at a disadvantage in finding employment in the general labor market.

Health workers, particularly hospital workers, have been receiving larger raises in pay than workers in the general labor force. This is true for workers not specifically trained for health occupations as well as those in jobs peculiar to the health sector. Wage practices in hospitals differ from those in other sections of the economy; hospitals are able to pass labor cost increases on to the government and private insurance companies, and thus to the public; rate regulations that restrict cost-pass-through may change this. Unions are only now becoming a significant influence on the hospital scene, especially since the National Labor Relations Act has been applied to non-profit hospitals only since 1974. These developments affect hospital costs and the supply of workers to hospitals; a recent report to the Council on Price and Wage Stability finds, however, that the unusually rapid increases in hospital wages are responsible for a relatively small portion of hospital inflation.[18]

HEALTH EMPLOYMENT AND HEALTH CARE PROBLEMS

Can we solve our country's health care problems through changes in the training and employment of the health labor force? Let us examine some commonly asserted policy prescriptions for a cure.

It has been suggested that the availability of physicians and dentists be increased. Unfortunately, producing more physicians is unlikely to make medical care more available in shortage areas and in primary care. Policies that alter the location and specialty decisions of physicians may be necessary; required national service for all physicians has been considered. The availability of physician services might be increased by the use of "physician extenders" (PE's), workers who are prepared to do part of a physician's work under his or her supervision, either in the physician's office or in a remote location. For years, physicians have been delegating certain tasks to nurses, aides, and secretaries assisting them in office practice; nurse practitioners give well-baby care and routine prenatal care, and take over other patient care functions from physicians; and recently a new occupation has been created, the "physician assistant," who typically has less training than the baccalaureate nurse and takes on some of the physician's tasks. A relevant question, however, is whether the technical ability of physician extenders to perform efficiently will actually bring about their widespread use, especially in an era of increasing physician supply. Physicians working alone in fee-for-service practice appear unwilling to assume the burdens of management involved in hiring PE's and delegating many tasks to them, even though patient loads can be increased in this way. The widely asserted "need" for specially

(*Continued on page 227*)

[17]Stuart H. Altman, *Present and Future Supply of Registered Nurses,* DHEW Pub. no. (NIH) 72-134 (Washington, D.C.: Government Printing Office, 1971); Frank A. Sloan, *The Geographic Distribution of Nurses and Public Policy,* DHEW Pub. no. (HRA) 75-53 (Washington, D.C.: Government Printing Office, 1975).

[18]Martin S. Feldstein and Amy Taylor, *The Rapid Rise of Hospital Costs,* Council on Price and Wage Stability, Staff Report (January, 1977).

Christine E. Bishop is coauthor with Rashi Fein of *Employment Impacts of Health Policy Developments,* Special Report no. 11, National Commission for Manpower Policy, October, 1976. She was a Fellow at the Harvard Center for Community Health and Medical Care, 1972-1974.

"As care in hospitals and nursing homes has consumed a larger and larger share of the total outlay for health, national attention has increasingly focused on the supply and utilization of these facilities."

Health Facilities in the United States

By Dorothy P. Rice
Director, National Center for Health Statistics, Department of Health, Education and Welfare

EXPENDITURES for health have been rising at a rapid rate in the United States in recent years, reaching $139.3 billion in fiscal year 1976.[1] As care in hospitals and nursing homes has consumed a larger and larger share of the total outlay for health, national attention has increasingly focused on the supply and utilization of these facilities. Cost containment proposals are directed primarily to hospital costs. Where there was a concern for a shortage of hospital beds 30 years ago, the question frequently raised today is whether there is an excess of beds. In spite of recent improvement, the quality of care in some nursing homes also remains a concern.

Expenditures for medical care are not only increasing rapidly, they are also representing larger proportions of the gross national product. In 1965, the year before implementation of the Medicare and Medicaid programs, medical care expenditures totaled $38.9 billion, 5.9 percent of the GNP; in 1970, they totaled $69.2 billion, 7.2 percent. The $139.3 billion expended in 1976 represented 8.6 percent of the GNP.

Hospital care is the largest single item in health expenditures; it amounted to $55.4 billion in fiscal year 1976, nearly 40 percent of the total health outlay. In 1965, hospital care represented about one-third of the total outlay. The rise in hospital expenditures has been caused by increased costs of labor and supplies, increased demand (with the growth of private health insurance and government programs), and costly technological changes.

Nursing home care is the most rapidly growing component of medical care, with expenditures increasing from $3.8 billion (6 percent of the total outlay) in 1970 to $10.6 billion (or 8 percent of the total) in 1976. This component will continue to grow as the number of elderly persons in the population increases.

Among other components of personal health care expenditures, physicians' services cost $26.3 billion in 1976 (19 percent of the total outlay); dentist services, $8.6 billion (6 percent); and drugs and drug sundries, $11.2 billion (8 percent). Expenditures for construction of hospitals, nursing homes, medical clinics, and medical research facilities accounted for $5.0 billion and medical research for $3.3 billion.

As medical care expenditures have increased, the source of financing has changed dramatically. Public programs, primarily Medicare and Medicaid, have taken over more and more of the burden of paying for hospital care. In fiscal 1966, the year before Medicare, the private sector, including private health insurance, contributed 64 percent of the $14.2 billion total; the federal government paid 13 percent, and state and local governments spent the remaining 23 percent. In fiscal 1976, the portion of hospital expenditures paid by the private sector declined to about 45 percent. Together, government and private health insurance paid over 90 percent of hospital expenses in 1976, with government paying 55 percent and private insurance 35 percent.

The financing of nursing home care has also changed significantly as the result of Medicare and Medicaid. Both these programs support care for eligible persons in skilled nursing facilities; Medicaid also provides coverage in intermediate level facilities for persons who need long-term care but do not require the degree of care available in skilled nursing facilities. In 1976, the government paid over half the costs of nursing home care, chiefly through federal funds, in comparison with 43 percent in fiscal year 1966. Most of the remaining cost is paid by individuals and their families.

Private funds continue to pay most of the bill for physicians' services, but the public share increased from 7 percent in fiscal 1965 to 25 percent in 1976. Consumers paid 39 percent directly in 1976; health insurance paid 36 percent. For dental expenses and the costs of drugs and sundries, consumers continue to pay more than 80 percent of the costs.

[1]Social Security Administration, preliminary estimates.

TABLE 1: Number of Hospitals by Ownership and Type of Service, United States, 1975

Ownership	Total hospitals	General	Psychiatric	Tuberculosis	Chronic disease	Rehabilitation	Other
All ownerships	7,336	6,397	509	36	68	73	253
Government	2,670	2,217	301	32	44	17	59
Federal	382	353	26	—	—	—	3
State-local	2,288	1,864	275	32	44	17	56
Proprietary	1,016	823	114	—	6	7	66
Nonprofit	3,650	3,357	94	4	18	49	128

TABLE 2: States with the Five Highest and Five Lowest Rates of General Hospital Beds per 1,000 Population, United States, 1975

Highest		Lowest	
State	Rate	State	Rate
D.C.	9.6	Hawaii	3.4
North Dakota	7.3	Maryland	3.6
South Dakota	6.7	Utah	3.6
Nebraska	6.7	Alaska	3.9
Kansas	6.6	Washington	3.9
West Virginia	6.5	Connecticut	4.0
		Idaho	4.0
		Delaware	4.1

The growth of private health insurance and public programs have greatly reduced the consumer's direct share of the costs of health care, notably hospital care. Public programs have also had a significant effect on the development and distribution of health facilities.

The Hospital Survey and Construction Act of 1946, popularly called the Hill-Burton program for its congressional sponsors, established a program of federal grants (matched in varying proportions by state and local funds) and loans for the building of hospitals. Although at most $12 billion of the $55 billion spent on health facilities construction and modernization during the past 30 years was derived directly from the Hill-Burton program, federal funds appear to have been a factor in spreading short-stay hospital beds across the country. As hospital supply began to improve, the Hill-Burton program was modified to include the building of other types of facilities, like public health clinics, and increasingly in recent years the program has emphasized modernization.

As Table 1 shows, most of the 7,300 hospitals in the United States are under private, nonprofit ownership.[2] The federal facilities represent primarily the hospital systems of the Veterans Administration, Department of Defense, and the Public Health Service and serve beneficiary groups designated by law.

About 6,400 hospitals are general medical and surgical hospitals, providing care for injuries and acute episodes of all types of illness. In 1975, the general hospitals contained 1,058,000 beds, an average of 165 beds per hospital. Admissions totaled 35.4 million, and the average patient stay was eight days. In contrast, psychiatric and chronic disease hospitals had average stays of 208 and 292 days, respectively.

The pattern of ownership of general hospitals varies little from the patterns of ownership of all hospitals, and when beds rather than hospitals are considered, the pattern is also similar. Less than one-third of all general hospital beds are government-owned.

On an average day, 75 percent of the beds in general hospitals are occupied. Occupancy varies slightly with the size of the hospital and with ownership. In general, the larger the hospital the higher the occupancy rate. Proprietary hospitals, which tend to be small, have lower rates of occupancy (64 percent) than nonprofit hospitals (77 percent) or government-owned hospitals (73 percent).

General hospitals employ more than 3 million people — 80 percent of them full time. Both total hospital staffs and nursing staffs have been increasing. In 1971, general hospital staffs averaged 350 persons (full-time equivalents); in 1975, the average was 423. The number of registered and licensed practical nurses per 1,000 patients rose from 751 in 1971 to 885 (full-time equivalents) in 1975. Over the same period, the number of inpatients receiving care each day increased only slightly from 116 to 124. Some studies show higher staffing/patient ratios in United States hospitals than in hospitals in other countries.[3]

General hospitals are well distributed throughout the nation. For the United States as a whole, there are 5.0 beds per 1,000 population. The ratio is highest in the north central states and lowest in the west (see Table 2).

Specialty hospitals, in contrast to general hospitals,

[2]Unpublished data, 1975 Master Facility Census, National Center for Health Statistics.

[3]Egan Jonsson and Duncan Neuhauser, "Hospital Staffing Ratios in the United States and Sweden," *Inquiry*, vol. 12 (2). Supplement, June, 1975, pp. 128-137.

tend to be government operated. State, local, and federal governments own more than 60 percent of all psychiatric hospitals and virtually all tuberculosis and chronic disease hospitals.

Psychiatric hospitals had 272,000 beds in 1975; beds in chronic disease hospitals were the next largest group, about 21,000. Both the number of psychiatric hospitals and their average bed capacity have been decreasing, as facilities for outpatient care have increased. Chronic disease hospitals, although decreasing in numbers, have expanded their bed capacities.

Whether there are now excess hospital beds and how much these beds contribute to the rising costs of medical care are questions of growing concern. The number of beds in hospitals of all types peaked in the 1960's and has since declined. The decline has been caused by the elimination of beds in psychiatric hospitals and tuberculosis hospitals and in federal hospitals. Since 1960, the number of beds in non-federal short-term hospitals has increased 45 percent, from 640,000 to 931,000. The ratio of beds per 1,000 population has risen from 3.6 to 4.4.

In response to concern over hospital bed supply, the federal government and the individual states have enacted laws placing stricter controls over major capital investments in new hospitals. From the beginning, the Hill-Burton program included requirements for state planning and the establishment of priorities for areas of greatest need. Subsequent legislation dealing with health planning required nonbinding reviews of capital expenditures by a central state agency. In the 1960's, individual states began to enact laws requiring "certification of need" for the construction of new hospitals or the expansion of their capacity. By 1976, 26 states had such laws.

Amendments to the Social Security Act in 1972 allow the Department of Health, Education, and Welfare to contract with the states to review capital investments in hospitals that exceed $100,000, change the bed capacity, or substantially change the services provided in the facility. If state review and approval are not obtained, reimbursement for depreciation under the Medicare and Medicaid programs can be disallowed. Another step was taken in the National Health Planning and Resources Development Act of 1974. Under that law, federal grants, loans, loan guarantees and interest subsidies for hospital construction are limited to projects involving modernization, outpatient facilities, conversion of existing facilities to provide new services, and inpatient facilities in areas that have experienced recent rapid population growth.

The Institute of Medicine of the National Academy of Sciences has recommended that health planning goals established under this legislation include "an overall reduction of at least 10 percent in the ratio of short-term general hospital beds to the population within the next five years and further significant reductions thereafter."[4]

Nursing homes are a relatively new development in health care. The number of beds in nursing and related care homes in the United States more than doubled between 1963 and 1973, rising from 569,000 to 1,328,000. This rapid growth is due in part to coverage of charges for certain types of nursing home care under Medicare and Medicaid, as well as to changes in family living arrangements, the increase in the size of the elderly population, and advances in medical technology.

Included in the 21,800 nursing and related care homes are homes offering varying levels of nursing care as well as those that provide only domiciliary care. Unlike hospitals, most nursing homes—about three-fourths—are under proprietary or profit-making ownership. In 1973, proprietary homes had about 70 percent of all nursing home beds and about 70 percent of all nursing home residents.

For the most part, the homes are evenly located throughout the United States. Nationally, there are about 62 beds per 1,000 persons aged 65 and over, but bed to population ratios in the states range from about 105 per 1,000 population aged 65 and over in Minnesota and Iowa to 23 per 1,000 in West Virginia.

In 1973, about 872,000 people were employed in nursing homes, 70 percent of them full time. About 97,000 of the full-time staff were registered or licensed practical nurses, a ratio of 80.9 nurses for each 1,000 residents.

In a survey conducted by the National Center for Health Statistics in 1973-1974, about 15,700 of all nursing and related care homes were identified as homes in which the primary function was nursing care or in which personal care was supplemented by some nursing care.[5] This group of "nursing care homes" included 1,174,800 beds, and 1,075,800 residents—by far the majority of all nursing home beds and residents. About three-fourths of these homes were eligible to provide services under Medicare, Medicaid, or both programs.

The study showed residents as a group with multiple health problems. The most commonly diagnosed conditions were hardening of the arteries, senility, strokes and mental disorders. Almost half the residents could not see well enough to read a newspaper, even with glasses; one-third could not carry on a conversation on an ordinary telephone.

All the residents received some nursing care. Over 40

[4] *Controlling the Supply of Hospital Beds: A Policy Statement* (Washington, D.C.: National Academy of Science, 1976), p. IX.

[5] National Center for Health Statistics, "Selected Operating and Financial Characteristics of Nursing Homes, United States: 1973-74 National Nursing Home Survey," *Vital and Health Statistics*. Series 13, no. 22. DHEW pub. no. (HRA) 76-1773. Health Resources Administration (Washington, D.C.: U.S. Government Printing Office, December, 1975).

percent received intensive nursing care, which included such services as full bed baths and intraveneous injections. About one-third more had routine nursing care—blood pressure, pulse checks—and about 26 percent received personal care or limited nursing.

Very few received any kind of therapy—either from the home or from an outside source. About 10 percent received physical therapy, 15 percent received recreational therapy. The data do not show how many could have benefited from these services. One-fourth had not been seen by a physician for at least three months at the time the study was made. Of those who had been in a home for a year or more, 13 percent had not been seen by a physician for at least six months, and for almost nine percent the interval was at least one year.

The study also obtained information on costs of providing care to the homes. Expenses generally were higher for the nonprofit homes than for the proprietary homes, apparently because the nonprofit homes made greater use of nursing and nonmedical personnel. Expenses were also higher for homes certified for both Medicare and Medicaid and for homes of 200 beds or more. The higher expenses for homes certified for Medicare and Medicaid are caused by the expenditures such homes must make to meet federal standards for staffing, construction, equipment, and the provision of services. The higher expenses of nursing homes of 200 beds or more reflect the tendency of homes of this size to offer a greater number and variety of services than small homes offer.

OTHER FACILITIES

Some 4,800 residential facilities of other types serve groups with special needs. About 1,300 are facilities for the mentally retarded; about the same number serve the emotionally disturbed. About 800 are residential facilities, including half-way houses, for drug abusers or alcoholics. Other facilities serve the blind and deaf and other physically handicapped persons.

Ownership of facilities of this type is predominantly nonprofit, except in the case of facilities for the mentally retarded, where over one-half are proprietary.

As a group, these facilities had about 341,000 residents and 242,000 employees in 1973. At least one facility for the mentally retarded and for drug abusers was located in each state. This was not true of residential facilities for emotionally disturbed children.

MENTAL HEALTH FACILITIES OTHER THAN HOSPITALS

In 1974, there were 2,200 psychiatric outpatient facilities that were affiliated with hospitals or other mental health facilities, like residential treatment centers for emotionally disturbed children. Services offered by outpatient facilities vary widely, but the general framework is diagnosis and treatment for individuals and a variety of services for the community. About one-third of the facilities were located in the northeastern United States.

About 1,100 of the clinics were "freestanding"—not associated with another facility. About 47 percent were operated by state and local governments; 53 percent were privately operated. Staffs totaled more than 29,000 persons, with social workers, including trainees, the largest professional group.

In addition, 443 federally funded community mental health centers were in operation. The centers were unevenly distributed throughout the United States; more than a third were in the south.

Halfway houses for the mentally ill and for alcoholics are fewer in number. These houses tend to provide room and board and a supportive environment rather than a planned program of treatment. In 1973, there were about 200 halfway houses for the mentally ill and about 600 for alcoholics.

LICENSURE AND STANDARDS FOR FACILITIES

Standards for health facilities have traditionally been set by the states through licensure and by professional organizations in the health field through accreditation programs. In addition, individual facilities conduct internal reviews related to the necessity for and appropriateness of care.

Licensure of health facilities became widespread in the 1940's; virtually all types of facilities are now regulated by state governments. All states (except Ohio, which does not license general hospitals) require that hospitals be licensed. However, the requirements and standards for licensure vary considerably. They are usually concerned with the qualifications of the staff, minimum standards of care, and safety of the facilities. Licenses must be renewed periodically, usually at one or two year intervals.

Nursing homes are also required to be licensed in each state, but again, there is little uniformity in requirements or in the definitions of a "nursing home." The term can mean anything from a facility that provides care comparable to care in a hospital (excluding surgery) to a facility that offers nothing more than room and board.

The majority of states also license facilities for the mentally retarded and dependent children and unwed mothers; considerably fewer license facilities for the physically handicapped, including the blind or deaf.

Accreditation of health facilities is conducted by professional organizations and is voluntarily sought by an institution. Accreditation programs have been effective

(*Continued on page 230*)

Dorothy P. Rice was Deputy Assistant Commissioner for Research and Statistics before her appointment to the National Center for Health Statistics. She is co-author of *The Current Burden of Illness in the United States* (Institute of Medicine, in press).

"In the case of the pharmaceutical industry, the goals of technological progress, efficiency, safety and efficacy are often in conflict. It is now incumbent on the researcher to specify which mixes of policy goals are feasible, and incumbent on the policymaker to select the most desirable feasible mix."

Prescription Drugs: Problems for Public Policy

BY MARK C. HORNBROOK

*Research Economist, National Center for Health Services Research, Department of Health, Education, and Welfare**

A MEDICINAL drug is a substance used for the alleviation, improvement, cure, or prevention of a disease or its consequences. When a drug is not contaminated, when it is effective, and when it is administered properly, it can be crucial. Alternatively, when it is impure or used improperly, a drug can produce illness and even death.

In addition, drugs have a social and an economic significance. The pharmaceutical industry had $8.5 billion in total sales in 1973,[1] a figure that represented hundreds of thousands of pills, capsules and ampules. The complex and significant physiological actions that follow the administration of a drug require a tremendous machinery to test new drugs for safety and effectiveness, to train professionals in their use, to assure access to drugs to patients who need them, and to sustain the flow of new drugs.

Before World War II, the pharmaceutical industry was a relatively static industry supplying bulk medicinal chemicals to the pharmacist.[2] Using these bulk powders and crystals, the pharmacist added excipients and binders, rolled his own pills, filled his own capsules, and prepared his own liquid suspensions and tinctures as prescribed by the physician. The introduction of sulfa drugs in 1936 signaled the beginning of a revolution in the industry. Sulfanilamide, despite its toxic side effects, came into widespread use because it possessed greater antibacterial properties than any other drug available at that time. The usefulness of sulfa drugs and the needs of the war effort stimulated research for safer and more effective drugs. Penicillin was an initial important result. By the end of the war, the pharmaceutical industry's laboratories were rapidly discovering new drugs. The pharmaceutical industry is now one of the most research-intensive industries in the United States.[3]

One other effect of the war evolved from the military's need for drugs in finished, dosage-form, ready for administration to the patient. Drug manufacturers were required to invest in mixing, tableting, and encapsulating equipment necessary to provide the dosage-form products. This development spelled the end of the pharmacist's compounding function.

In the 1950's, the industry was spectacularly successful in discovering and introducing new products. However, this very mode of operation ultimately created difficulties. Since the manufacturer now provided drugs in the form in which they reached the ultimate consumer, brand names became more important. Large-scale promotional campaigns directed at the medical profession became an important dimension of industry conduct. A significant innovational advance usually meant commercial success for the innovating firm, and advertising was necessary to inform physicians about each new product. The introduction of new drugs became a vehicle of rivalry, and a firm's claim for the success of each new drug was often challenged. Many "new" drugs were actually only new salts or other minor molecular variations of existing drugs. New drugs were usually introduced at very high prices; if long-term drug therapy was required, the impact of these prices on a patient's budget assumed considerable importance, especially in the case of the elderly, who were subject to both chronic diseases and reduced incomes.

*This article was written by the author in his private capacity. No official support or endorsement by the Department of Health, Education, and Welfare is intended or should be inferred.

[1]Thomas R. Fulda, *Prescription Drug Data Summary 1974* (Washington, D.C.: U.S. Department of Health, Education and Welfare (HEW), 1976) no. (SSA) 76-11928, p. 26.

[2]Walter S. Measday, "The Pharmaceutical Industry," in Walter Adams, ed., *The Structure of American Industry,* 4th ed. (New York: Macmillan, 1971), pp. 156-161.

[3]HEW, Task Force on Prescription Drugs, "The Drug Makers and the Drug Distributors," *Background Papers* (Washington, D.C.: Government Printing Office, 1968), p. 16.

Significant public criticism of the pharmaceutical industry actually began on December 7, 1959, when the Senate Subcommittee on Antitrust and Monopoly opened hearings on "administered prices in the drug industry" under the chairmanship of Senator Estes Kefauver (D., Tenn.). The majority views expressed in the final report of the Kefauver committee charged the industry with "unreasonably high" prices, monopolistic restriction of the market, abuses of the patent privilege, and excessive waste of resources in selling efforts.[4] In response, the industry defended itself with detailed references to its contributions to the health of mankind; a parade of experts attested to the reasonableness of industry profits and practices.

Senator Kefauver prepared a bill to correct some of the perceived abuses in the industry, including provisions to increase the safety and effectiveness of new drugs and to reduce their prices, including compulsory patent licensing for new drugs. This bill was not passed as originally written; probably no important provision would have been adopted were it not for an unforeseen set of circumstances.

In several West European countries in 1959-1960, a number of babies were born with seal-like deformities of arms and legs, a condition termed phocomelia. Researchers soon determined that this was the result of a particular drug, thalidomide, taken by a mother in a critical stage of her pregnancy. The drug had not yet received approval for marketing in this country from the Food and Drug Administration, but several hundred doses had been sent to physicians for experimental use. There was great public pressure to force the immediate recall of these doses and to adopt some measure to assure that the European experience would not be repeated in the United States. In 1962, Congress passed the Kefauver-Harris Amendments, as they were called, to the Food, Drug and Cosmetic Act. This legislation was another example of the failure to implement a coordinated and comprehensive public policy toward the industry.

Public policy on drugs has always been formulated in response to a specific crisis. In 1906, the Pure Food and Drug Act was passed in response to public outcry against spoiled, contaminated and adulterated foods and drugs. The Food, Drug and Cosmetic Act of 1938 was enacted in response to the elixir of sulfanilamide tragedy in which more than 100 persons, many of them children, were killed because the drug had not been tested for toxicity before it was marketed. The thalidomide tragedies in 1959-1960 stimulated the passage of the 1962 Drug Amendments Act, a version of Senator Kefauver's proposed legislation. In each case, the element of catastrophe provided the impetus for a much needed policy measure, but the aura of crisis prevented a reasoned and careful evaluation of the effects of any given measure. As a result, a new campaign had to be mounted to correct the deficiencies or omissions in the adopted measures.

There is no disagreement regarding the policy objectives for the pharmaceutical industry—an adequate supply of safe and effective drugs at the lowest possible cost and the development of an adequate flow of new drugs. Problems arise partly because these goals are in conflict. Such goal conflict makes a comprehensive policy even more imperative, yet no such policy currently exists.

The most recent major policy initiative, the Drug Amendments Act of 1962, contained four essential provisions: (1) proof of therapeutic efficacy was added to proof of safety as a requirement for approval of new drugs for use by physicians; (2) the Food and Drug Administration (FDA) was given the power to regulate clinical (human) testing of new drugs; (3) stricter regulations governing production methods and quality control procedures were established; and, (4) the regulations governing prescription drug advertising were tightened to require that advertising claims not go beyond the proven therapeutic efficacy, that side effects and contraindications be listed, and that the generic name of the drug be featured in the advertisement at least half as prominently as the brand name.[5]

If adequately enforced, these measures can insure that the drugs available to a patient are effective, safe, and of reasonably high quality. However, they do not address the problems of cost and efficiency, or other economic conditions influencing the development and distribution of drugs. Further, no attention has been given to the undesired or unpredicted side effects of these measures. For example, the proof of efficacy requirements means an increased barrier to the introduction of a new product, which, in turn, could have significant effects on the market structure and product-mix of the industry. Other Western nations, in response to a growing concern over economic conditions in the industry, have adopted a variety of formal economic policies, including compulsory generic prescribing, restrictive formularies, regulation of profit margins, direct price controls, and even nationalization. However, in this country policymakers have taken only the most tentative first steps toward the development of a general economic policy for the industry, which are embodied in the recently published Maximum Allowable Cost (MAC) regulations.[6] However, this program, which will be described later, does not represent a comprehensive policy framework in which multiple and conflicting goals may be considered.

Adverse drug reactions represent an important med-

[4]Henry Steele, "Patent Restrictions and Price Competition in the Ethical Drugs Industry," *Journal of Industrial Economics,* vol. 12 (July, 1964), p. 198.

[5]*Drug Amendments of 1962, Statutes at Large,* vol. 57, no. 780 (1962).

[6]HEW, "Limitations on Payment for Drugs," *Federal Register,* vol. 40, no. 32284 (1975).

ical problem; they rank seventh among the leading causes of hospitalization and account for as many as 50 million hospital patient-days per year. During an average stay in the hospital, a patient receives an average of eight or more drugs. As many as 31 percent suffer some kind of undesired, unintended, or pathological reaction. Moreover, 2 to 8 percent of all drug doses given in the hospital are in error—wrong drug, wrong dose, wrong route of administration, wrong patient, or failure to give the prescribed drug.[7]

A recent study of 26,462 patients admitted to acute disease hospital medical wards in seven Western nations revealed a *death* rate of nearly one per thousand attributable to drugs.[8] A number of deaths were caused by errors in administration rather than the intrinsic nature of the drug. Twenty percent of the deaths were caused by intravenous fluid overload, i.e., too much, too fast. A majority of the deaths occurred in patients who were already gravely ill and who were being administered powerful drugs with known adverse effects in last-ditch life-saving efforts. It is not surprising that some of these patients died as a result of the drugs. This is part of the irreducible minimum risk that physicians must weigh in making therapeutic decisions for their patients.

What this minimum risk of death from taking a drug should be is not clear. Could the physicians have exercised better judgment in any of the deaths in the above study? Did they have sufficient information to be able to make correct decisions for their patients? This is a major issue underlying the problem of drug safety today. Physicians *do not* have an adequate base of information for making chemotherapeutic decisions. With over 24,000 drug products to choose from, and with new ones being added each year, physicians are forced to develop shortcuts. Usually, the physician selects a few "favorite" drugs for dealing with each of the frequent diseases he sees in his practice. He does not attempt to select the best drug for his patient from the total set of available drugs, and he may be unfamiliar with many of the properties of the drugs he frequently prescribes. Inadequate training in clinical pharmacology in medical school, inadequate sources of objective drug information, reliance on drug advertising for product information, rapid turnover among drugs and lack of time are cited as factors responsible for preventing physicians from making objective therapeutic judgments concerning the safety, efficacy, and efficiency of alternative drug treatments.[9]

The role of drug firm promotional activities in influencing physician prescribing patterns was highlighted by the Task Force on Prescription Drugs:

> On two points at least, there is little argument—first extraordinary amounts of money are spent to advertise drugs to prescribers; and second, through their prescribing of heavily advertised specialty products, the physicians give evidence of the success of these promotional efforts.[10]

The dangers inherent in this situation are revealed by the persistent prescription of chloramphenicol in the face of repeated warnings from the Food and Drug Administration about the high risk of toxic reactions to the drug. Chloramphenicol is a powerful antibiotic that is the drug of choice for only a few rare and serious diseases; despite this fact, approximately 1,250,000 prescriptions for the capsule form alone were filled in 1968.[11] As a result, many trivial infections were transformed into aplastic anemia, a serious and often fatal blood disease.

The physician's problem is even more complex if the patient has multiple sources of care and is receiving two or more drugs from different physicians. Drug interaction is likely. One proposal for dealing with this problem is to have the pharmacist maintain patient medication profiles so that he can notify the physician whenever a newly prescribed drug is likely to interact with drugs the patient is already taking. Of course, this requires that the patient maintain a single pharmacy as his source of drugs.

In addition to proper administration, drug safety involves the characteristics of the product itself. Assurance of safety requires a complex testing process in animals and humans. The FDA faces a number of issues in designing regulations in this area. For how long, in what dose, to how many animals, and by what route must a drug be administered to experimental animals before it is given in one small dose to a human being? Too short a period may overlook long-run dangers of the drug, like carcinogenesis. Too long a period may unnecessarily delay a potentially useful drug from reaching thousands of patients.[12]

Another issue involves the use of normal subjects for drug testing. Should they be used at all; if so, how invasive should test procedures be? Some procedures for assessing the effects of a drug, like cardiac catheterization and liver biopsies, involve considerable risk, so that both the drug and the testing procedure may be potentially harmful to the patient.

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[7]Milton Silverman and Philip R. Lee, *Pills, Profits, and Politics* (Berkeley: University of California Press, 1974), pp. 258-281.

[8]Jane Porter and Hershel Jick, "Drug-Related Deaths among Medical Inpatients," *Journal of the American Medical Association,* vol. 237 (February 28, 1977), pp. 879-881.

[9]HEW, Task Force on Prescription Drugs, "The Drug Prescribers," *Background Papers* (Washington, D.C.: Government Printing Office, 1968), p. 3.

[10]*Ibid.,* p. 13.

[11]Marshall H. Becker et al., "Characteristics and Attitudes of Physicians Associated with the Prescribing of Chloramphenicol," *HSMHA Health Reports,* vol. 86 (November, 1971), p. 994.

[12]Leon D. Goldberg and Daniel L. Azarnoff, "New Drug Investigations in Man: Continuing Unresolved Problems," in Richard L. Landau, ed., *Regulating New Drugs* (Chicago: Center for Policy Study, The University of Chicago, 1973), pp. 61-70.

TABLE 1: Annual Admissions, Patient-Days and Average Length of Stay in Mental Hospitals, 1935-1970

Years	(1) Admissions (per 1,000 population)	(2) Patient-Days (per 1,000 population)	(3) Average Length of Stay (days per patient)
1935	1.4	1,455	1,039
1940	1.4	1,634	1,167
1945	1.9	1,720	905
1950	2.0	1,659	848
1955	2.2	1,645	748
1960	2.3	1,491	648
1965	2.9	1,261	435
1970	3.3	862	261

Source: U.S. Bureau of the Census, *Historical Statistics of the U.S., Colonial Times to 1970,* Bicentennial Edition part I (Washington, D.C., 1975), p. 81.
Note: Column (3) = Column (2) ÷ Column (1). This is an approximation since many patients were admitted in prior years.

The clinical pharmacologist must obtain informed consent before he uses normal subjects and diseased patients in drug testing programs. But what of those cases where the subject is unable to consent? For almost every new drug, there is a considerable void in knowledge about its effect on children and pregnant women. Dosages for infants and children must be extrapolated from tests on adults, which are inappropriate because children metabolize drugs differently. Testing the effects of a drug on a fetus or nursing infant is nearly impossible. The physician faces far greater risks in treating the pregnant or nursing woman.

A final issue in the determination of drug safety concerns the long-term effects of a drug. For example, diethylstilbestrol (DES) was found to cause vaginal cancer in the female offspring of a woman who took the drug during pregnancy. Unfortunately, this was not discovered until the 1960's and 1970's, when the daughters of thousands of women who took DES in the 1940's and 1950's began showing a much higher incidence of vaginal cancer. Cancer's long latency period makes it extremely difficult to establish cause and effect, and extremely costly to test for carcinogenesis, even in animals. A new test procedure, called the Ames test, offers promise in this area. One billion of a particular species of single cell bacterium are used to identify mutagenesis, which is hypothesized to be related to carcinogenesis. The test has a 90 percent rate of detecting true positives (known carcinogens) and a 100 percent rate of detecting true negatives (known non-carcinogens). At a cost of $500 per test, the Ames test offers a welcome development in drug safety.[13]

There is no doubt that the modern physician has at his disposal a chemotherapeutic armamentarium that is impressive in its war against disease and discomfort. The average life expectancy at birth in the United States rose from 54 years in 1920 to 70 years in 1970; the maternal death rate dropped from 680 maternal deaths per 100,000 live births in 1930 to 25 in 1969. Much of the improvement in health can be attributed to the introduction of new drugs. Drugs have almost wiped out certain diseases, like smallpox, which used to be endemic throughout the world. In the United States, polio and diphtheria, which were formerly dangerous to young children, have been almost eradicated through massive vaccination programs. In pneumococcic pneumonia, the fatality rate was 33 percent before specific treatment was available; now, penicillin and the tetracyclines have dropped the rate to 5.1 percent. In 1945-1947, the mortality rate (number of deaths per 100,000 per year) for tuberculosis was 36.6. After the introduction of streptomycin and PAS in 1947, two drugs that act directly against the tuberculosis bacillus, the mortality rate dropped to 21.2. The introduction of isoniazid in 1952 markedly accelerated the decline in tuberculosis deaths, and today the rate stands at 2.6, as compared with 181.9 at the beginning of the century.[14]

The advent of tranquilizers precipitated a revolution in the treatment of mental illness. Chlorpromazine (thorazine, stelazine), the first of the major tranquilizers, was introduced in 1954. Before 1954, severe mental illness usually required lengthy stays in mental hospitals. Tranquilizers, although they have not reduced the incidence of mental illness, have dramatically shortened average lengths of stay because they enable the patient to continue functioning in society. Until 1943, the average length of a stay in a mental hospital was more than three years. This had declined to 2.3 years by 1950, but remained level until chlorpromazine was introduced. Lengths of stay have declined largely uninterrupted to the present level of less than 9 months. This can be attributed to a succession of innovative psychotropic drugs and to their gradual acceptance by the medical profession. (See Table 1.)

Other diseases for which new drugs have drastically reduced death rates include rheumatic fever, scarlet fever, meningitis, typhoid fever, syphilis, and hypertensive heart disease. Drugs have also reduced the costs of disease by reducing lengthy hospitalization and physician care for specific illnesses, and they have made recovery more certain and more rapid. Patients suffer less pain, less tissue damage and disability, and are able to return to normal activities in a fraction of the time formerly required.

Current regulations require that a drug be effective

[13]Allen V. Kneese and William D. Schulze, "Environment, Health, and Economics—The Case of Cancer," *American Economic Review,* vol. 67 (February, 1977), pp. 326-332.

[14]Silverman and Lee, *op. cit.,* p. 14; and Harry F. Dowling, *Medicines for Man* (New York: Alfred A. Knopf, 1970), p. 29.

for the problem for which it is promoted. An important problem facing the FDA is how to implement this policy for certain classes of drugs for which there is no adequate measure of effectiveness. It is relatively easy (and inexpensive) to test the effectiveness of a new antibiotic against a wide range of microorganisms. But, how does one test the effectiveness of an analgesic when pain is essentially a subjective phenomenon? Or the efficacy of tranquilizers and other psychotropic drugs against anxiety and depression? Obviously, carefully controlled experimental designs are called for, and even then many drug firms argue that the FDA is being unduly arbitrary and capricious in establishing the efficacy criteria for many drugs.

COSTS

Total expenditures for drugs in the United States have risen from $3.6 billion in 1960 to $9.7 billion in 1974, an increase of more than 269 percent. This increase is due to population growth, price inflation, an increase in the per capita utilization of drugs. Adjusting for population growth, per capita expenditures for drugs rose from $19.67 in 1960 to $45.14 in 1974, a twofold increase. The drug component of the consumer price index fell from 104.5 in 1960 to 100.0 in 1967 and rose to 109.6 by 1974. Converting the per capita drug expenditures to constant dollars (1960 = $18.82, 1974 = $41.19), we find that "real" per capita consumption of drugs increased by $22.37 over this period, in the form of increased consumption of existing drugs and consumption of newly introduced, more expensive and, presumably, more effective drugs. Thus, the average price of a prescription rose from approximately $3.20 in 1960 to $4.70 in 1974, reflecting an increase in the average number of units of medication per prescription, and a shift in the mix of drugs purchased as new drugs became available. An estimated 1.8 billion prescriptions were dispensed on an outpatient basis in 1974, with a rate of increase of approximately 7 percent per year.[15]

There is considerable variation in drug expenses across age groups, from $25.71 per capita in 1974 for the under 19 group to $103.17 per capita for those aged 65 and over. In 1974, the elderly accounted for 10.2 percent of the population but 23.3 percent of total expenditures for drugs.[16] This reflected the greater incidence of illness among the aged and their greater dependence on long-term maintenance drugs to combat chronic illnesses.

Of the total expenditures for drugs, only about 14 percent is met through public and private health insurance programs, leaving 86 percent of drug purchases to be paid for out of pocket. Only 18.5 percent of the elderly population, for example, are enrolled in out-of-hospital prescription drug coverage by private insurance firms. Medicare does not cover out-of-hospital prescriptions, so drugs represent a major medical expense for the elderly.[17]

These two facts—the uneven distribution of drug consumption within the population and the inadequate coverage for drugs under most public and private health insurance plans—highlight the cost of drugs to patients, especially the aged, the poor, and the chronically ill. Although some observers take the view that there is too much overuse of drugs, most critics focus their attention on the "unreasonably high" prices of drugs.

Specifically, it is argued that the large pharmaceutical firms have been able to create sheltered market positions for themselves, and that without the pressure of competition, they have reaped extremely high profits. According to economic theory, if extra-normal profits occur in the short run, new firms should be attracted to the industry; the resulting increase in output should then act to bring prices down so that, in the long run, profits return to normal levels. By constructing various barriers to entry, however, established firms may continue to set high prices and earn "excess" profits. It has been estimated that consumers paid $1.24 billion in "excess profits" to drug firms over the period 1960-1971.[18]

By traditional accounting methods, drug firm profits are unusually high. Over the period 1960 to 1974, the average net profit after taxes as a percentage of net stockholders' equity for United States drug manufacturers was 18.5 percent (with a high of 20.8 percent and a low of 16.7 percent); during this same period, the average annual profit rate was 11.4 percent (with a range of 8.9 percent to 15.1 percent).[19] Whether or not drug firm profits can be termed "excessive" is a matter of debate. Some economists have argued that these profits are overstated because research and development (R & D) expenditures are treated as current expenses rather than as investments. Professor Bloch states, for example, that R & D constitutes a major asset of the pharmaceutical firm; because it is not counted as such, the value of stockholders' equity is severely understated, hence causing the reported rate of return to be overstated.[20]

An analysis of the organization and behavior of the pharmaceutical industry leads to the conclusions that the achievement of effective product differentiation, combined with strong patent protection and government regulation of new product entry, has erected substantial barriers to entry to therapeutic product

[15]Fulda, *op. cit.*

[16]*Ibid.*

[17]*Ibid.*

[18]Neville Doherty, "Excess Profits in the Drug Industry and Their Effect on Consumer Expenditures," *Inquiry,* vol. 10 (September, 1973), pp. 19-24.

[19]Fulda, *op. cit.*

[20]Harry Bloch, "True Profitability Measures for Pharmaceutical Firms," in Joseph D. Cooper, ed., *Regulation, Economics, and Pharmaceutical Innovation* (Washington, D.C.: The American University, 1976), pp. 147-157.

TABLE 2: Breakdown of Drug Industry Sales Dollar, 1958 and 1966

Item	1958 (22 firms)	1966 (17 firms)
Profits after taxes	13.0%	13.5%
Research and development	6.0	6.5
Taxes	13.0	10.0
General and administrative expenses	11.0	
Selling expenses, including advertising and promotion	25.0	35.0
Cost of goods sold	32.0	35.0

Source: U.S. Department of Health, Education and Welfare, Task Force on Prescription Drugs, "The Drug Makers and the Drug Distributors," *Background Papers* (Washington, D.C.: Government Printing Office, 1969), pp. 13-14.

markets. Preservation of these barriers is assured by intensive promotional activities designed to create physician loyalties to particular brand names. Differentiation among products is enhanced by the continual development of new products, which may be new chemical entities or simply new dosage-forms or other minor variations of existing products. Competition among firms occurs in the form of a race to develop new and better products, rather than in the traditional mode of price competition. Table 2 shows the breakdown of sales revenues for selected major firms in 1958 and 1966. Over one-third of total revenues are devoted to selling and research expenses, fully as much as the costs of production. Drug firms spent over $1 billion on promotional activities in 1971. This includes $700 million for retailing, $167 million for journal and direct mail advertising, and $150 million for convention displays, educational seminars, and other direct and indirect forms of promotion.[21] All these efforts are directed at a market of less than 300,000 practicing physicians, thus representing $3,333 per physician!

The ability of the drug firm to spend such a large proportion of its revenues on advertising indicates that the firm can set prices high enough to generate the revenue required to finance that advertising. In other words, as Dr. Walter S. Measday has stated:

> . . . prices determine costs rather than the other way around—i.e., a company tries to establish a price structure high enough to finance the degree of non-price competition required to maintain its market position.[22]

Four structural factors provide strong incentives to the leading drug firms to avoid price competition: inelastic demand for drugs with respect to price and income, the presence of a large number of small firms, low proportion of variable costs, and minor technical barriers to competitors. The latter factor derives from the following characteristics of drug production: constant returns to scale, relatively small aggregate output for any given product, and negligible cost of quality control. Under these conditions, unrestricted price competition can rapidly drive costs below average total costs. Therefore, drug firms face strong incentives to adopt competitive strategies that will eliminate competition and stabilize prices and output. Intensive research and promotional efforts handicap competition by raising the cost a new firm must incur to penetrate the market with a new product. Use of patents and trade names reinforce these barriers to competition. Government regulations regarding safety and the efficacy of new products also preserve the market shares of the dominant firms.[23]

The price differentials between generic and brand name versions of chemically equivalent products offer evidence of the success of the strategy to limit price competition as shown in Table 3. It is plausible to assume that the lower prices of generic products offer adequate profit margins to firms, since these products are regularly available at these prices and since some firms specialize in marketing only generic products. The price differential indicates the effect of brand name promotion on pricing policies, despite the existence of competitive suppliers.

Price competition is generally limited to older, standardized, non-patented products, which are frequently non-competitive with the newer patented products that occupy the leading positions in most markets. Prescription drug prices tend to be rigid, and levels of concentration of market shares in the various therapeutic markets tend to be quite high. The focus of rivalry is shifted to other dimensions of the product, like quality, safety, therapeutic effect, and lack of side effects. The degree of product competition tends to be intense, witness the high levels of promotional activity and the considerable turnover among the firms in the top positions in each market. A high rate of product obsolescence is also a significant characteristic. This volatility of firm and product market positions creates an incentive for competitive behavior, because firms must constantly devise new product and advertising strategies to prevent the loss of sales to rivals. Indeed, the drug industry has become a classic case of "product competition" carried to its logical extreme.

Recent research indicates that promotion is not solely a tool of the dominant firms to foreclose the market to other firms. Newly entering firms can and do use promotion as an effective means of market penetration, so that the greater the overall intensity of promotion in a drug market, the greater the likelihood of erosion of market shares of the dominant firms.

The large price differential between generic and brand versions of the same drug has stimulated promulgation of the Maximum Allowable Charge (MAC) regulations by the Department of Health, Education,

[21]T. Donald Rucker, "Economic Problems in Drug Distribution," *Inquiry,* vol. 9 (September, 1972), pp. 44.

[22]Walter S. Measday, *op. cit.*

[23]Hugh D. Walker, *Market Power and Price Levels in the Ethical Drug Industry* (Bloomington: Indiana University Press, 1971).

TABLE 3: Brand Name—Generic Name Price Differentials for Selected Chemical Equivalents: Costs to Pharmacist, 1977

Product	Brand Price	Generic Ratio
Tetracycline: 1,000-250 mg capsules	$37.95	3.47:1
Lederle (Achromycin V)	10.95	
Rugby Labs., Inc.		
Penicillin G: 1000-400,000 units	22.95	1.85:1
Pfizer (Pfizerpen G)	12.40	
Barre Drug Co. Inc.		
Chloramphenicol: 100-250 mg capsules	29.70	5.30:1
Parke-Davis (Chloromycetin)	5.60	
Geneva Drugs, Ltd.		
Ampicillin: 100-250 mg capsules	12.76	2.74:1
Ayerst Labs (Penbritin)	4.65	
Rugby Labs, Inc.		
Meprobamate: 1000-200 mg tablets	46.80	11.41:1
Wyeth Labs (Equanil)	4.10	
Paramount Surgical Supply Corp.		
Chlorpheniramine Maleate: 1000-4 mg tablets	20.59	16.47:1
Shering (Chlor-trimeton)	1.25	
Sherry Pharm Co.		

Source: *Drug Topics Red Book 1976* (Oradell, N.J.: Medical Economics Co., 1976).

Definitions: Brand name—a registered trademark for a drug product which may be promoted exclusively by the holder, e.g., Achromycin.
Generic name—the established or official name given to a drug, e.g., tetracycline.
Chemical name—a precise description of the molecular structure of a drug, e.g., 4-dimethylamino-1, 4, 4a, 5, 5a, 6, 11, 12a-octahydro-3, 6, 10, 12, 12a-pentahydroxy-6-methyl-1, 11-dioxo-2-napthacenecarboxamide hydrochloride.

and Welfare. The MAC program seeks to limit the amounts reimbursed by the federal government for drugs prescribed under federally subsidized health care programs (e.g., Medicare, Medicaid) to the lowest price at which a drug is generally available. The MAC program also provides for the publication and dissemination of drug price lists to physicians and pharmacists. The goal of this measure is to increase the price consciousness of these providers when they prescribe and dispense drugs to their patients. However, these measures fail to address some of the crucial aspects of the production and marketing processes for drugs.

At the retail level, significant variation in price levels among pharmacies is observed. To some extent, this variation is related to differences in costs and product mix: low-volume, prescription-specialty pharmacies exhibit higher than average prices, while large-scale, diversified-chain pharmacies exhibit lower than average prices. Some pharmacies offer a wide range of services in addition to prescription dispensing, including delivery, credit, and maintenance of family health records. Independent pharmacies that purchase their inventories of drugs from wholesalers must usually pay higher prices than the high-volume chain stores that are able to purchase directly from manufacturers.

Another factor relating to retail prescription drug prices is whether or not advertising is permitted. Until recently, the pharmacist was prohibited from advertising prescription prices, so that consumers had very little information on prices in the market. Thus, the incentive for price competition was very small. Surveys have found that prescription prices tend to be significantly lower in areas where drug price advertising is not restricted. In one study, it was estimated that in 1970 restrictions on prescription drug advertising resulted in monopoly returns ("excess" profits) of between $135 and $152 million, almost four percent of total prescription sales.[24]

Despite significant litigation and legislative activity in recent years, the overall picture remains unchanged, with the same states preventing drug price disclosures. Even in those states where price advertising has been successfully challenged, pharmacists are very reticent to disclose prices.

NEW DRUG DEVELOPMENT

A primary issue concerning new drug development is the effect of government regulation on innovation in the pharmaceutical industry. The 1962 Drug Amendments Act which requires proof of efficacy as well as safety for all new drugs represents increased cost, risk and development time for the innovating drug firm. During the 1950's, the annual volume of introduction of newly synthesized drugs averaged over 50 per year and the safety testing time was short (seven months, on average). Over the decade 1962 to 1972, development time per newly synthesized drug rose from 2.5 years to 10 years. Moreover, a sizable proportion of new drugs fell victim to the more stringent regulations; less than ten percent of the drugs entering the clinical (human) testing stages became commercially available.[25] The result is that the average number of newly synthesized drugs has dropped to 16 for the period 1963 to 1975 (See Figure 1). Although the decrease in new drug introduction is statistically associated with the adoption of the more stringent regulations, it is not clear that it is cause and effect. An alternative hypothesis is that research opportunities in the pharmaceutical area will be depleted until new discoveries in basic research are made.[26]

Due to the huge increase in R & D costs and in project attrition rates, the rate of return on R & D in-

[24]John F. Cady, "An Estimate of the Price Effects of Restrictions on Drug Price Advertising," *Economic Inquiry,* vol. 14 (December, 1976), pp. 493-510.

[25]Henry G. Grabowski and John M. Vernon, "Consumer Protection Regulation in Ethical Drugs," *American Economic Review,* vol. 67 (February, 1977), pp. 359-364.

[26]Martin Baily, "Research and Development Cost and Returns: The U.S. Pharmaceutical Industry," *Journal of Political Economy,* vol. 80 (January/February, 1972), p. 78.

TABLE 4: Concentration of Innovational Output in the U.S. Pharmaceutical Industry

	Periods		
	1957-61	1962-66	1967-71
(1) Total number of newly synthesized drugs (NSD's)	233	93	76
(2) Number of firms having an NSD	51	34	23
(3) Total innovational output ($ millions in NSD sales during first 3 full years after introduction)	$1,220.3	$738.6	$726.8
(4) Four largest innovative firms' share of innovational output	46.2%	54.6%	61.0%
(5) Four largest firms' share of innovational output	24.0%	25.0%	48.7%
(6) Four largest firms' share of total drug sales	26.5%	24.0%	26.1%

Source: Henry G. Grabowski and John M. Vernon, "Consumer Protection Regulation in Ethical Drugs," *American Economic Review,* vol. 67 (February, 1977), p. 361.

vestment has declined from 11.4 percent in 1966 to 3.7 percent in 1974 and the payback period has increased to as much as 19 years. This leads to the question of whether drug firms will continue their level of investment in drug research. In fact, we find that there has been a real reduction in R & D investment (expenditures adjusted for inflation). This is shown by the data on constant dollar investment as well as the real dollars spent per R & D person. Both of these measures have declined in the last five years.[27]

In the post-1962 environment, both the market success and the higher research productivity of pharmaceutical firms have been achieved by companies that have narrowed, rather than enlarged, the diversity of their R & D effort.[28]

Theoretically speaking, the increased cost of new product development should cause a firm to abandon marginal new drugs that do not have sufficient predicted post-introduction profits to cover increased development costs. The number and therapeutic importance of these non-developed drugs have not been determined, but they represent an undesirable side effect of the regulation. The regulations also, presumably, prevent the introduction of ineffective, and hence, wasteful drugs, which should be counted as a benefit. One study estimated that the annual equivalent gains and losses to consumers of the 1962 amendments resulted in a $300-$400 million loss due to the reduced flow of safe and effective new drugs, a gain of $100 million from reduced waste on purchases of ineffective new drugs, and a net loss of $50 million resulting from higher prices for existing drugs as a consequence of reduced competition from new drugs. These add up to a net loss to consumers of from $250 million to $350 million per year due to the amendments.[29]

The amendments also have undesired effects on supply. The number of independent sources of new drug introduction has declined from an average of 51 firms offering a new chemical entity in the 1957-1961 period to an average of 23 firms in 1967-1971 (see Table 4). Moreover, larger innovative drug firms have accounted for an increasing percentage of total innovation, with the result that new drug development is concentrated in fewer and larger firms. Since new drugs are a major competitive weapon in the industry, this increased concentration of innovation has undesirable implications for the overall degree of competition in the industry.

Another aspect of the impact of the 1962 amendments concerns the innovative activities of multinational drug firms. Most innovative drug firms are multinational in character, possessing important advantages over their domestic competitors in responding to the regulatory requirements. Thus, multinationals can introduce a new drug in a foreign country with less stringent regulations prior to its introduction in the United States. This provides the firm with clinical testing data and sales revenue while the drug remains under regulatory review. Thus, the firm is able to screen new drugs abroad and submit only the few promising drugs to the FDA for approval. Data show that United States firms engage in extensive exporting of the clinical testing of new drugs. Before 1966, nearly all clinical testing was done first in the United States. In 1974, approximately one-half of all new compounds were tested abroad first.[30] This is one reason large multinational firms account for a dominant share of innovation in the United States pharmaceutical industry.

The increase in regulations has caused a reduction in the effective life of a patent. A firm must apply for its patent almost as soon as a compound with possible therapeutic utility has been identified. This will often

(*Continued on page 228*)

[27]David Schwartzman, "Pharmaceutical R & D Expenditures and Rates of Return," in Robert B. Helms, ed., *Drug Development and Marketing* (Washington, D.C.: The American Enterprise Institute, 1975), pp. 63-80.

[28]Erol Caglarcan, Richard E. Faust, Jerome E. Schnee, "Resource Allocation and Pharmaceutical Research and Development," in Samuel A. Mitchell and Emery A. Link, eds., *Impact of Public Policy on Drug Innovation and Pricing* (Washington, D.C.: The American University, 1976), pp. 331-349.

[29]Sam Peltzman, "The Benefits and Costs of New Drug Regulation," in Landau, *op. cit.*

[30]Grabowski and Vernon, *op. cit.*

Mark C. Hornbrook's publications include "Market Domination and Advertising in the U.S. Pharmaceutical Industry: Some Implications for Public Policy," in *Medical Care,* vol. 15 (forthcoming, 1977). He serves as a consultant to the Division of Drug Experience of the Bureau of Drugs, Food and Drug Administration, Department of Health, Education and Welfare.

HEALTH BEFORE THE NEW DEAL

(*Continued from page 197*)

came in President Franklin Pierce's administration when Congress, in response to Dorothea Dix's lobbying, surprisingly passed a bill to set aside federal land for grants-in-aid to the states to build and support insane asylums. Pierce vetoed the bill on the grounds that it would weaken state and local responsibilities.

However, the federal government assumed a few functions with respect to health. In 1798, Congress established the United States Marine Hospital Service for sick and disabled seamen; twenty cents a month was deducted from the wages of each seaman. This was the first example in American history of "social security." Each port of the United States had a federal director of marine hospitals, and the port's federal director of customs, under the United States Treasury, collected and administered hospital funds and supervised the director. The hospital service was usually contracted to private enterprisers and was generally inefficient. Since the collectors of customs and the directors of hospitals were usually products of the political spoils system, there were all sorts of complaints of political favoritism and misuse of funds.

The federal government made a significant contribution to the understanding of general health in the nation when its 1850 Census for the first time included a breakdown of the causes of death. Subsequently each national census became more complete and accurate. Such information was indispensable to health officers and students of public health, and the national census stimulated cities and counties to set up registrations of births and deaths.

Early in the course of the Civil War, President Abraham Lincoln authorized the organization of the United States Sanitary Commission with limited powers to supervise the health of the Union Army. State and local chapters were set up and their volunteer members constituted a vast male and female organization to aid the army's regular medical corps. One division of the Commission gathered hospital equipment, bed-clothing, underwear, and food delicacies, even fruits and vegetables, for the soldiers. Another formed a nursing staff and worked close behind the battle lines and in the military hospitals. A third, a smaller group, composed of some of the nation's leading doctors, inspected sanitary conditions in army camps and distributed health pamphlets to soldiers.

CIVIL WAR TO NEW DEAL

Government functions in public health grew steadily during the 1870's, 1880's, 1890's, and during the early decades of the twentieth century. During this time, state, county and city health boards proliferated. Local sanitary codes covered street cleaning, garbage collection, sewage, housing, screening, industrial hygiene, cleanliness in food and drink, filtering and chemical purifying of water supplies, certifying and pasteurizing milk. Vital statistics were better kept.

The period from around 1875 to around 1920 has been called "the Age of Bacteriology." Revolutionary advances were made in discovering the specific causative agents of communicable diseases and in developing vaccines and antitoxins to immunize against them. Local health boards established laboratories to run down the sources of infection and contagion in their communities and to give vaccinations and immunization shots, blood tests, and venereal tests. By the second and third decades of the twentieth century many communities were providing free clinics for administering vaccinations, immunizations, blood tests, and venereal treatments. Many states and even some localities established hospitals for inexpensive or free treatment of tuberculosis.

During the early decades of the twentieth century, public health nursing developed. Schoolchildren were required to be vaccinated against smallpox; later they were given free eye, ear and dental examinations; and, later still, free general physical examinations. Finally concern about malnutrition in schoolchildren led some communities to provide free milk and even free lunches in the schools.

After 1870, the states increasingly and progressively assumed control of the licensing of physicians, raised the standards for practice, and spent larger sums of money on state medical schools.

As late as 1870 the federal government's activities in health were largely limited to restricted cooperation with state officials in administering quarantine regulations at the ports; medical, nursing, and hospital treatment of sick and disabled seamen; medical care of those in the armed services and the federal prisons; and some responsibility for the health of the Indians on the reservations.

FEDERAL EXPANSION

After 1870, federal functions expanded, at first slowly, then more rapidly. In 1870, the Marine Hospital Service was drastically reorganized and its director, Dr. J. M. Woodworth, in effect became the first Surgeon General of the United States. In 1878, a devastating yellow fever epidemic swept up the Mississippi Valley from New Orleans and brought effective pressures for the establishment of a National Board of Health. This functioned from 1879 to 1883 to formulate regulations to prevent the spread of communicable diseases from state to state and to furnish federal inspectors at leading ports to check on state inspection. The Board was allowed to lapse in 1883 for a number of reasons: its inherent administrative defects; the antagonism of state boards of health, particularly that of Louisiana, to the National Board; and the mutual

jealousies of the Marine Hospital Service and the medical departments of the Army and the Navy and the National Board. However, in 1893, the federal government finally asserted its authority over port quarantine, and the Marine Hospital Service was enjoined to maintain federal control quarantine stations at American ports.

In 1901, the federal Hygiene Laboratory was established in Washington, D.C., to conduct epidemiological investigations and research, and in 1902 it was given the power to standardize and regulate the interstate sale of viruses, serums, toxins and other biological products. In 1906, the Meat Inspection Act provided for federal inspection of all meat destined for interstate commerce, and that same year a Pure Food and Drug Act was passed that placed some restrictions on producers of prepared foods and patent medicines. The administration of these laws was placed in the Department of Agriculture, illustrating the tendency of the federal government at that time to scatter the administration of its public health measures. Under President William Howard Taft, the Bureau of Mines was set up, which among other things was to conduct industrial hygiene studies.

The United States Public Health Service was established in 1912. This took over the functions of the Marine Hospital Service and most of the government's investigations and research into health matters. It was also given control over interstate sanitation and the spread of communicable diseases from state to state. Under the United States Health Service, the National Leprosarium was established in 1917 and the Division of Venereal Diseases in 1918.

In 1912, the federal Children's Bureau was set up in the Department of Labor to act as a clearing house of information about state laws on maternal and child care and on child labor. In 1921, the federal government began a program of grants-in-aid to the states for maternal and child care, and the Children's Bureau was given the administration of this program.

Historically, aside from the federal government's responsibility for the medical treatment and hospitalization of disabled seamen, the entering wedge for direct individual medical help to civilians by the federal government came by way of aid to veterans of the armed services. In 1833, the federal government established a pension system for relief of veterans mentally or physically disabled while in the service. In 1865, the National Home for Disabled Volunteer Soldiers (and sailors) was set up. (By 1930, the National Home had 11 branches—"the old soldiers' homes".) In 1890, federal pensions were extended to all mentally and physically disabled veterans without regard to whether the disability was incurred in the service. In 1904, federal pensions were extended to all veterans over the age of 62, regardless of disability.

In 1917, during World War I, the Bureau of War Risk Insurance was authorized to administer the allotment program for dependent families of members of the armed services; the death and disability compensation program; the life insurance program for service men and women; the rehabilitation and vocational training for veterans; and the medical and surgical treatment of veterans. The Federal Board of Vocational Education was organized to carry into actual execution the program for rehabilitation and vocational training. To the United States Health Service was assigned the active operation of the veterans' hospitals distributed over the country with their large staffs of doctors, nurses, and technicians.

In 1921, the Veterans Bureau was established. This absorbed those functions of the Bureau of War Risk Insurance dealing with veterans, those of the Federal Board of Vocational Education, and those of the United States Health Service with respect to running the veterans' hospitals. The Veterans Administration (1930) in turn set up coordinated veterans' affairs in still more centralized fashion when it took over the functions of the Veterans Bureau, the Bureau of Pensions, and all branches of the National Home for Disabled Volunteer Soldiers. ■

THE NEW DEAL AND HEALTH

(*Continued from page 200*)

Unwilling to risk the entire Social Security Act by including health insurance, both Roosevelt and the Committee on Economic Security agreed to avoid the subject until Congress had enacted the bill.[7] The Committee subsequently transmitted a report to the President which recommended a federal-state permissive health insurance system including grants to states that established approved plans and disability cash benefits along the lines of unemployment compensation.

No official action was taken on the report, but amendment of the Social Security Act to include health insurance emerged as one of the most prominent social issues of the late 1930's. Indeed, the successful administration of its health titles nurtured the conviction that only a national health program including insurance could insure that the American people received medical care according to their need rather than their ability to pay. Grants-in-aid for maternal and child health, crippled children and public health came at a time when depression retrenchments had seriously undermined public health agencies and the morale of their employees.

Federal assistance helped restore morale and enabled state and local agencies to expand their existing programs or introduce new ones.

Under the auspices of the Social Security Act, the nation experienced one of the most intensive upsurges

[7] *Ibid.*, pp. 187-188.

of public health organization in its history. Ironically, the Committee on Economic Security had not originally contemplated public health grants, but had employed Edgar L. Sydenstricker and I.S. Falk, two expert statisticians and medical economists, to develop a national health insurance plan. It was Michael M. Davis of the Julius Rosenwald Fund who proposed the health grants which proved to be "throughout the congressional consideration . . . a source of strength for the bill."[8] Following passage of the Social Security Act, the 594 counties in the United States with local health departments under the direction of a full-time medical officer increased to 1,371 by 1939.

Between February, 1936, and June, 1939, federal funds assisted in the training of 5,400 public health workers, including physicians, nurses and engineers. No state had an organized pneumonia control program in 1935, but by 1940, 34 states with Title VI assistance were spending nearly $660,000 for the purpose. Similarly, the three states in 1935 with cancer control programs increased to 16 by 1940; the 15 active in dental hygiene in 1935 increased to 38 by 1940, and the three carrying on industrial hygiene work increased to 31 by 1940. Of the rise in expenditures for local health services from $7.5 million in 1935 to more than $17 million in 1940, approximately 40 percent was attributable to Title VI funds.[9]

The AMA observed with dismay an increasing pressure for amendment of the Social Security Act to include health insurance as part of an even broader national health program. Its unyielding resistance to any hint of government-sponsored health insurance was understandable; such insurance became a symbol of all those innovations which, in its view, threatened to transform the physician into a salaried employee and shift control of medical affairs from the profession to political and lay bureaucracies. Invariably, organized medicine equated preservation of the physician's status as an independent entrepreneur and freedom of the profession from external interference with continued high standards of medical care.

But the laymen and technicians—physicians, public health and social insurance experts, medical economists and sociologists—active in the preparation of a national health program between 1935 and 1938 could not conceive of an effective plan that omitted insurance. The findings of the National Health Survey of 1935-1936 concerning the relationship between health, medical care, and income offered convincing proof in their eyes that a mechanism superior to charity or fee-for-service had to be established. Otherwise, the desired goal of medical care as a function of need rather than ability to pay could not be attained.

[8] *Ibid.*, pp. 171, 172.

[9] The annual reports of the Social Security Board provide a convenient summary of progress under all the Titles of the Act.

Following passage of the Social Security Act, the Roosevelt administration demonstrated its continuing support of a national health program by the appointment of an Interdepartmental Committee to Coordinate Health and Welfare Activities. The Interdepartmental Committee, in turn, selected a Technical Committee on Medical Care. The latter assumed the main responsibility for preparing the national health plan presented to the President by the Interdepartmental Committee in February, 1938. In March, the President suggested the convening of a National Health Conference to discuss the proposals. Attended by representatives of farm, labor and other consumer groups, as well as the medical and allied professions, the conference met for three days in July, 1938, when it received and discussed the Technical Committee's plan for America's first comprehensive national health program.

Depending largely on the National Health Survey for insight into the nation's health and medical needs, the Technical Committee's first recommendation proposed an enormous increase in social security expenditures for public health and maternal and child health. Pointing out that state health department budgets averaged only 11 cents per capita and that local budgets often came to a few cents per capita, it concluded that an adequate public health program would require additional expenditures of $200 million a year, the federal government contributing half.

Although in 1935 all government expenditures for health and medical services totaled some $520 million, or one-sixth of the national medical bill, the amount spent on general medical care for the sick poor exclusive of hospitals was estimated at only $25 million. This sum, in turn, was inequitably distributed, with some communities spending far more than others in proportion to their medically needy population. To expand tax-supported medical services, the committee recommended additional expenditures ultimately reaching $400 million a year, the federal government again supplying half.

GENERAL MEDICAL CARE

The most controversial of the committee's recommendations, relating to a "general program of medical care" for the self-supporting population, advocated radical changes in procedures for financing medical costs. Estimating that adequate medical care at minimum fees (exclusive of dentistry, medicines, appliances and community services) would cost about $76 yearly on an individual basis, the Committee calculated that this figure could be reduced to $25, including dentistry, if medical costs were shifted from individuals to groups. It recommended, therefore, that the federal government provide states with financial and technical aid in the development of general medical programs based on insurance, taxation or some combination of both meth-

ods. If federal grants-in-aid did not produce results, a uniform federal payroll tax with tax-offsets comparable to unemployment compensation might be used.

Finally, to cope with the problem of wage loss during illness, the Technical Committee recommended temporary disability insurance analogous to unemployment compensation, supplemented by invalidity insurance administered through the old-age annuity mechanism of the Social Security Act. It estimated that the cost of temporary disability insurance would approximate one percent of wages and provide benefits up to 50 percent of wages for 26 weeks.

Early in 1939, the Interdepartmental Committee, following numerous conferences with interested groups, formally transmitted the recommendations to President Roosevelt with one important change. Instead of separate programs for the needy and self-supporting, it proposed a unified approach through tax-supported medical services for all included groups, or contributory insurance supplemented, if necessary, by contributions from tax funds for those unable to meet the full premium. In February, 1939, Senator Wagner introduced his bill "To Establish a National Health Program." It amended Titles V and VI of the Social Security Act to provide greater expenditures for maternal and child health, crippled children and public health, and introduced three new titles authorizing federal grants-in-aid for hospital construction, general medical care programs financed through taxation, insurance or some combination, and temporary disability compensation.

Referred to a subcommittee of the Senate Committee on Education and Labor, which held extensive hearings during the spring of 1939, the Wagner bill was favorably reported in August. The subcommittee, however, requested time for further study in order to report an amended bill at the next congressional session. No such bill ever materialized. Preoccupied with foreign affairs, and under fierce attack from the medical profession, the Roosevelt administration allowed the national health program to dwindle to an appropriation of several million dollars for a "National Hospital Act" in 1940.

The AMA was not exclusively responsible for the defeat of the national health program. The Wagner bill was criticized by the American, Protestant and Catholic hospital associations on the grounds that it ignored the financial plight of voluntary hospitals, and by spokesmen for the American Dental Association who complained, somewhat inconsistently, that it promised too much and too little. Even its defenders, including organized labor, farm groups and the small, but influential Committee of Physicians for the Improvement of Medical Care, had criticisms to offer.[10] Nonetheless, it seems probable that some version of a national health program would have been enacted had organized medicine cooperated and, indeed, adopted any attitude short of relentless, uncompromising hostility.

The AMA's initial reaction to the national health program, a series of resolutions adopted at another special session of the house of delegates following the National Health Conference, was deceptively encouraging. Not unexpectedly, the delegates registered their opposition to compulsory health insurance, "a complicated, bureaucratic system which has no place in a democratic state." After the Wagner bill was introduced later on, its supporters insisted, rather misleadingly, that the national health program never required compulsory health insurance, but merely provided grants-in-aid for any approved state plan of general medical care financed through insurance, taxation or some combination. Technically this was true, but the AMA was correct in assuming from the beginning that compulsory insurance was the general idea. The AMA at its special session did endorse voluntary hospital insurance and the development by county medical societies of "appropriate means to meet their local requirements."

It would be incorrect to assume that the AMA's position was dictated solely by the desire to retain a favorable economic advantage for physicians under the fee-for-service system. In several respects, the average physician would have benefited substantially from a national health program. For one thing, the medical profession supplied an enormous amount of free service in clinics, hospitals and elsewhere, a burden from which the Wagner bill promised some relief through compensation from insurance or tax funds. Equally important, the CCMC had demonstrated that medical incomes were uneven, like medical costs. Although in 1929 the median net income of physicians was $3,800, and the average income, $5,300, one-third of all private practitioners earned net incomes of less than $2,500. Nothing in the Wagner bill suggested that private practice would be abolished or that steadier and higher incomes for the average physician would come at the expense of the more affluent.

In the final analysis, the AMA position on the Wagner bill and its relationship generally to the evolution of a national health program were based less on considerations of economic advantage or, for that matter, the concrete medical needs of the nation, than on more intangible fears concerning the freedom and status of the physician.

Unacknowledged by the AMA was the de facto erosion of this individualism. Progress in medical science and technology, accompanied by specialization, rising costs of good medical care, and the special problems posed by the increasing proportion of aged and chronically ill, were leading inexorably toward the bureaucratization of medicine. □

[10] "To Establish a National Health Program," hearings before a subcommittee of the Committee on Education and Labor. *United States Senate, 76th Cong., 1st Sess., on S.1620.* 3 vols. (Washington, D.C., 1939), *passim.*

HEALTH CARE AFTER 1945

(*Continued from page 206*)

trying to cut back on the programs despite the hardships this will mean to many persons.

As with Medicare, health professionals have benefited greatly from Medicaid. In fact, Medicare and Medicaid have benefited the providers as much as the aged and needy. Charges that individual practitioners have received large sums of money from Medicaid and reports of other forms of fraud and abuse have led Congress to seek reform of the program. While reform is high on the legislative agenda, any major substantive changes are unlikely. Instead, some form of national health insurance will probably take over this program. Efforts to control costs will continue, however, and HEW has appointed its first Inspector General, who will have the responsibility for policing alleged Medicaid irregularities.

Other changes are also coming. Under the recent HEW reorganization plan, both Medicare and Medicaid will be placed in a new HEW division, the Health Care Financing Administration, which "will provide basic quality control and will tackle strenuously the problems of fraud and abuse that so severely undermine our governmental health programs."[14]

Despite its problems, Medicaid has not been an entirely negative experience. During 1976, it provided medical services for more than two million Americans — 1 out of every 10 — including people who would not have been able to obtain care without the program.[15] Low income families now visit physicians more often than the well-to-do, and there is some evidence that mortality rates for low income families are declining. For many poor children, the program has been particularly effective by focusing on the detection and treatment of childhood disease.

What are the lessons of Medicare and Medicaid? Clearly, enacting a new federal program and providing more dollars will probably not bring order to the chaotic health care delivery system in the United States.[16]

The inequities in the availability, quality and cost of care have led the federal government increasingly into the area of regulation of the health care field. Laws aimed at cost, utilization and quality control are already using the federal dollar as a lever. None of them have been particularly successful.

Experimental health delivery programs, like the Health Maintenance Organization Act of 1973 that sought to stimulate pre-paid group practices providing comprehensive care to members for a fixed fee, have encountered the resistance of organized medicine and the disinterest of the public at large.

The federal government has also enacted health planning laws to try to assure the orderly development and use of resources. The National Health Planning and Resources Development Act of 1974 is potentially the most far-reaching of the planning measures, in terms of expanded government regulation of the health care delivery system. The 1974 act mandates a far more comprehensive planning program than its predecessors. The network of state and area planning agencies provided for in the act has wide responsibilities, including the development and implementation of a state-wide services and facilities plan, and review of the appropriateness of existing institutional services and facilities and proposals for expansion. It is too early to judge the impact of this program.

In the area of cost control pressures for regulation are mounting, and in this area there is relatively little that the federal government can do short of actual wage and price controls. There are proposals to limit hospital costs by requiring hospitals to set budget limits each year through negotiation with the government. The government's lever would, of course, be the share of costs paid through Medicare and Medicaid. Physicians, nursing homes, laboratory testing and other segments of the industry that have contributed to inflationary pressures are even more difficult to control.

Today, the federal government must try to find an effective new way to attack the health care problem, which has frustrated the government for years and shows no signs of going away. ■

HEALTH EMPLOYMENT

(*Continued from page 210*)

trained physician extenders has not necessarily been translated into a demand for their services, and people seeking training as nurse practitioners and physician assistants under programs designed to expand the availability of physicians' services may not find jobs waiting at the end of their education.

Interestingly, dentists have been effective in expanding the availability of dental services through the employment of assistants, hygienists and, recently, expanded-function dental auxiliaries. Almost 85 percent of all dentists employed some type of assistant in 1970.[19] Many of these workers are technically competent to perform many dental tasks under a dentist's supervision. However, state licensure laws sharply limit how much a dentist may delegate to assistants.

It has also been suggested that the quality of patient

[14]HEW Press Release, March 8, 1977.

[15]William Knaus, "What We've Learned from the Medicaid Mess," *American Medical News,* October 25, 1976, Impact section, p. 1.

[16]See Karen Davis, *National Health Insurance, Benefits, Cost and Consequences* (Washington, D.C.: Brookings Institution, 1975).

[19]American Dental Association, *Survey of Dental Practice 1971* (Chicago: American Dental Association, 1973).

care can be improved by further training and certification for health workers. Judgments about the quality of health care often appear to be made on the basis of the credentials of the workers providing care rather than on the outcome experienced by the patient. Standards for accreditation and for avoiding malpractice suits in health institutions are often based not on the actual competence of health workers but on their educational credentials. Further emphasis on training and credentialing may improve quality, but it will also increase the rigidity of the health job structure and increase health labor costs.

The development of manpower plans to avoid shortages of health personnel is also urged. Planning for future labor demand is important, especially given the inflexibility of the health job structure. If shortfalls in supply can be avoided, new programs can go forward and wages for certain shortage occupations will not be raised. However, planners too often cite the "needs" for various types of personnel (for example, aides to assist the elderly at home, or physician assistants) when such personnel are actually unlikely to find employment in the current health system. In addition, requirements based on desired ratios of personnel per population may not be translated into future jobs: changing health technology may alter the occupational mix of health employment, cost controls may restrict labor input, and changes in the way we pay for health care may change both the amount and the mix of future health labor demand. ■

PRESCRIPTION DRUGS

(*Continued from page 222*)

occur early in the animal testing stage. If the animal and human testing take seven years, the 17-year statutory protection is reduced to 10 years of effective protection for the innovator, which may reduce the profitability of innovation (depending on the expected length of commercial life of the product).[31]

A number of suggestions for reforming federal drug regulation have been advanced. One difficult period in the life of a drug product is the transitional phase, when it is moving from an investigational compound to a fully marketed and widely prescribed product. In response to the current all-or-none method of release of a new drug, William Wardell has proposed a system of gradual release in two phases: monitored release and postmarketing surveillance.[32] Monitored release refers to the initial release of a new drug under restricted conditions of distribution and/or utilization that would enable close and scientifically meaningful monitoring of its effects in actual patients. Postmarketing surveillance refers to a looser system of monitoring the use of a drug when it has reached the general marketing stage. This system would allow earlier release of drugs for use by patients who have particular needs for them, and would enable a longer monitoring period to detect longer-term side effects that might alter the benefit-risk ratio for a particular drug.

Today, the FDA has set few restrictions on the prescribing of drugs. Physicians are required to register in order to prescribe narcotics and are not allowed to prescribe unlimited refills for controlled substances (these include, among others, narcotics, barbiturates and amphetamines). Thus a physician is free to prescribe any drug he wishes for his patient, whether or not it is approved by the FDA for the purpose for which it is being used (subject to malpractice liability, of course). To prevent unauthorized experimenting with drugs and to prevent physicians from treating illnesses with which they have had little experience, it has been suggested that selected classes of drugs be restricted to those specialists who are familiar with their use. For example, only cardiologists would be authorized to prescribe coronary vasodilators, antiarrhythmics, and other coronary drugs. Opponents of this proposal maintain that it would represent an undue intrusion into the practice of medicine by the federal government.

In order to improve the aggregate effectiveness of drugs, it has been proposed that new drugs be subject to a *relative efficacy* requirement, that is, firms would have to demonstrate that each new product is more effective in a given use than any other available product.[33] Advocates of this proposal maintain that it would prevent wasteful use of resources in developing and marketing drugs that duplicate the actions of drugs already on the market. They argue that research resources can be devoted to searching for true therapeutic breakthroughs. However, such a policy is likely to be difficult to implement, to cause a decrease in the degree of competition among drug firms, and, perhaps, to reduce the flow of desirable innovations.

There is considerable evidence that current regulation has had an adverse effect on drug innovation. To counteract the trend of increasing regulatory controls, Henry Grabowski suggests that increased use be made of the tort law to deter undesired behavior by physicians and drug firms. Instead of setting up a large, centralized regulatory bureaucracy to screen every drug advertisement and every prescription, the current legal system would be allowed to penalize firms that market unsafe and ineffective drugs by means of misleading advertisements.

[31]Edmund W. Kitch, "The Patent System and the New Drug Application: An Evaluation of the Incentives for Private Investment in New Drug Research and Marketing" in Landau, *op. cit.*, pp. 81-107.

[32]William M. Wardell, "Monitored Release and Postmarketing Surveillance: Foreign and Proposed U.S. Systems," in Mitchell and Link, *op. cit.*, pp. 289-311.

[33]Paul D. Stolley, "Assuring the Safety and Efficacy of Therapies," *International Journal of Health Services,* vol. 4 (1974), pp. 131-145.

To provide more balanced incentives, Grabowski suggests that the FDA be required to issue semiannual reports on the progress of new medicines in the testing process, to evaluate the effect on rate of drug innovation of current regulatory policies, and to issue a "research impact" statement for any new regulation.[34]

Economic theory suggests that a fundamental source of market power is a barrier to entry. Removal or reduction of entry barriers may remove the most important factors in an industry's poor economic performance. Economists have suggested three basic policy reforms for the pharmaceutical industry: abolition of trade names on drug products, abolition of patents on drug products, and relaxation of FDA requirements for new product entry.[35] These policy measures are ostensibly designed to improve the economic performance of the industry by increasing the incentives for lower costs and lower prices through increased price competition. But the objective of greater economic efficiency may conflict with the goal of technological progress, because extranormal profits may be a necessary incentive for pharmaceutical research and development. To allow sufficient rewards for successful innovation, compulsory licensing of drug patents is usually favored over the abolition of patents. Licensing can be required immediately on issuance of the patent or, alternatively, after a period of exclusive exploitation. The royalty rate can be set at a fixed rate or allowed to vary within certain limits. Licensing can be restricted to the domestic market or can include the export market as well.

Finally, the market power of drug firms can apparently be decreased by reducing barriers to the introduction of imitative products, which would reduce the market power of the dominant firms.[36] Measures would have to be adopted to reduce the requirements set by the FDA for marketing a drug that already has an approved New Drug Application. The length of time that drugs are held in "new drug" status (which requires any firm wishing to market the drug to produce evidence of safety and efficacy) would be reduced. This would also mean streamlining the procedures for certification of the firm's plant for producing the product.

In the case of the pharmaceutical industry, the goals of technological progress, efficiency, safety and efficacy are often in conflict. It is now incumbent on the researcher to specify which mixes of policy goals are feasible, and incumbent on the policymaker to select the most desirable feasible mix. ■

[34]Henry G. Grabowski, "Drug Regulation and Innovation: Empirical Evidence and Policy Options" (Washington, D.C.: American Interprise Institute, 1976), pp. 76-77, 80-82.

[35]Leonard G. Schifrin, "Thalidomide and Beyond: Some Recommendations Regarding Public Policies Toward the Ethical Drug Industry," *International Journal of Health Services,* vol. 4 (1974), p. 147.

[36]Mark C. Hornbrook, "Market Structure and Advertising in the U.S. Pharmaceutical Industry: Some Implications for Public Policy," *Medical Care,* vol. 15 (forthcoming, 1977).

THE NATION'S HEALTH

(*Continued from page 195*)

average net income for a dentist was $30,770. The highest paying specialty was endodentistry, while general dentistry was the lowest.

There are approximately 2.2 million people employed in nursing of all kinds. The largest group, about 910,000 people, are nursing aides, orderlies and attendants. Registered nurses total 815,000 and practical nurses, 459,000.

The United States has clearly made significant advances in the health status of its population. However, much work remains to be done. Some improvements in health will probably have to be made by those outside the medical care system. They include improvements in the environment, improved lifestyles and better nutrition.

Controlling the level of medical care expenditures will not be easy. New medical technologies continue to be developed and introduced into the medical care system. Many new medical advances are expensive. However, a debate is apparently emerging on the usefulness of these advances. Controlled clinical trials are needed to evaluate new medical technologies. One proposal to control expenditures, supported by the current administration, is a ceiling on the increase of yearly expenditures in the hospital sector. Other cost control programs currently being used include PRSO's (Peer Review System Organization) and certificate of need legislation. PRSO's allow physicians to set up organizations to review the cost and quality of medical care. The certificate of need legislation requires that permission be obtained before new medical facilities are built. The usefulness and effectiveness of these programs are still unknown.

The maldistribution of physicians along spatial and specialty lines will continue to be a problem. The specialty problem may be resolved as the federal government provides incentives to increase the training of primary care physicians. One solution to the spatial maldistribution of physicians is the use of physician assistants (PA's). The PA is trained in two years and is able to provide a significant amount of primary care. The PA may be willing to locate in areas where there is a doctor shortage. The location patterns of PA's are currently under study. ■

Bureau of the Census, *Historical Statistics of the United States, Bicentennial Edition* (Washington, D.C.: U.S. Government Printing Office, 1975).

Barbara Cooper, Nancy Worthington and Mary Mcgee—*Compendum of National Health Expenditures Data,* U.S. Department of Health, Education and Welfare (U.S. DHEW), January, 1976.

National Commission for Manpower Policy, *Employment Impacts of Health Policy Developments,* a special report of the National Commission for Manpower Policy, Special Report no. 11 (Washington, D.C.: October, 1976).

Peter Ries, *Current Estimates from the Health Interview Survey United States—1974,* NCHS, Vital and Health Statistics Series 10, no. 100, U.S. DHEW, September, 1975.

Richard Scheffler, ed., *Health Manpower* (Greenwich, Conn.:, JAI Press, 1977).

Marjorie Smith et al., "National Health Expenditures Fiscal Year 1975," *Social Security Bulletin,* February, 1976.

U.S. Department of Health, Education, and Welfare, *Medical Care Expenditures, Prices, and Costs Background Book,* Social Security Administration, Office of Research and Statistics, DHEW Publication no. (SSA) 75-11909.

HEALTH FACILITIES IN THE UNITED STATES

(*Continued from page 214*)

in promoting and upgrading health care. The oldest program is that of the Joint Commission on Accreditation of Hospitals (JCAH), formed in 1951. The commission is made up of the American Hospital Association, the American College of Physicians, and the American Medical Association. As of January, 1976, approximately 5,300 hospitals were accredited by JCAH. (A separate accreditation program of the American Osteopathic Association accredits osteopathic hospitals.) The remainder either did not seek accreditation or did not meet the standards. Accreditation, like licensure, must be renewed periodically.

The JCAH also conducts accreditation programs for long-term care facilities, including nursing homes, facilities for the mentally retarded, and psychiatric facilities. Each of these programs is carried out in cooperation with major professional organizations in the particular specialty field. In January, 1975, approximately 1,800 nursing homes had been accredited. Far fewer other types of facilities are accredited.

For most of our history, the federal government has indirectly affected the quality of hospital care, through support for basic research, the training of health workers, and aid for the building of physical plants. With the enactment of Medicare and Medicaid, federal standards for the provision of nursing care in nursing homes were established. (Hospitals accredited by JCAH were automatically eligible to participate.) More recent legislation may ultimately influence the quality of care provided in all settings.

PSRO REVIEW

Amendments to the Social Security Act in 1972 provided for the establishment of Professional Standards Review Organizations (PSRO) to monitor the appropriateness of the health care financed by federal programs—Medicare, Medicaid, and Maternal and Child Health programs. Review is to cover hospital, ambulatory and long-term care settings.

For hospitals, PSRO review has three components: concurrent review of the medical necessity of admission and continued stays; medical care evaluations, which are detailed reviews of the quality of care given to groups of patients; and retrospective analyses of patterns of care that can concentrate on a particular diagnosis, groups of patients or physicians, and identify areas needing special attention. The primary emphasis so far in PSRO review has been on concurrent review.

Ambulatory review generally will be accomplished through a review of the records of financial reimbursement for services; and procedures for long-term care review have not yet been implemented.

Alternatives to PSRO review as a means of quality assurance have also been studied by the Institute of Medicine, under provisions of the Health Maintenance Organization Act of 1973. Its report includes recommendations for revisions in PSRO procedures as well as research in the methodology of evaluating the quality of care. Our knowledge today is far from adequate.[6] ■

[6]Institute of Medicine: Assessing Quarterly in Health Care: An Evaluation. (Washington, D.C.: National Academy of Sciences, 1976).

Errata: In David C. Jordan's article on Argentina in our February, 1977, issue, paragraphs on the human rights position of the Videla government were condensed for reasons of space. Because the deletions may have led to a misunderstanding of Professor Jordan's position, we are reprinting his original paragraphs in full.

On page 59 in the left-hand column, line 49 the text should read: "Those who listened for years to the excuses, romanticisms and justifications for left-wing terrorist murderers and equally mindless right-wing terrorism welcomed the January, 1976, *La Prensa* report that everyone now speaks against terrorism."

Page 84, line 32 should read: "Nonetheless Videla's stand on human rights is sound. He says, 'For us, respect for human rights is not only the result of the commands of the law, nor of international declarations, but the consequence of our profound Christian convictions about the preeminent dignity of man as a basic value.' The administration's efforts to control terrorism have produced unacceptable abuses. Nonetheless, at the top of the Argentine government there is the understanding that a strict concern for human rights is compatible with the government's legitimate and thorough efforts to eradicate within the law terroristic subversion."

The last paragraph on page 84 should read: "All these activities should help suppress subversion too since the majority of Argentina's young terrorists come from the universities and the middle class and not from the shanty towns and working class. Involving them in a rigorous education with the prospect of doing useful work helpful to the growth of the entire economy may encourage a progressive sense of work and a reverence for human life."

Erratum: We regret an error in the article, "Mexico's Government in Crisis," by Salvatore Bizzarro in our March, 1977, issue. On page 103 in the left hand column, lines 19 and 20 should refer to President Miguel Alemán Valdés.

TWO MONTHS IN REVIEW

A Current History chronology covering the most important events of March and April, 1977, to provide a day-by-day summary of world affairs.

INTERNATIONAL

Arab-African Summit

Mar. 7—In Cairo, delegates from 59 Arab and African countries and the Palestine Liberation Organization (PLO) meet for a 3-day conference, the 1st combined summit conference ever held by Arab and African heads of state.

Saudi Arabian Foreign Minister Prince Saud announces that his government will allocate $1 billion for aid to black Africa.

Mar. 8—In Cairo, Jordanian King Hussein meets with PLO leader Yasir Arafat for the 1st time since 1970.

Asian Development Bank

Apr. 22—The member nations of the Asian Development Bank meet in Manila; Vietnamese delegates request financial assistance to rebuild the country's economy.

European Economic Community (Common Market)

Mar. 25—Leaders of the Common Market countries meet in Rome on the 20th anniversary of the Common Market.

International Development Agency

Mar. 17—At a 26-nation meeting in Vienna, U.S. representatives agree that the U.S. will try to obtain congressional approval for a $900 million increase in the U.S. contribution to the International Development Agency, to $2.4 billion.

Palestine National Congress

Mar. 12—In Cairo, Egyptian President Anwar Sadat addresses the opening session of the congress. He says that Egypt "will not cede a single inch of Arab land" to Israel.

Mar. 13—The congress reelects pro-Syrian moderate Khaled Fahoum as president.

Mar. 20—During its final session, the congress votes to establish "an independent national state" of Palestine on "national soil" and to name a delegation to attend an Arab-Israeli peace conference.

United Nations

Mar. 11—The United Nations Human Rights Commission ends its meetings in Geneva after 5 weeks.

Mar. 14—The United Nations Water Conference opens a conference on the world's water crisis in Mar Del Plata, Argentina; delegates from more than 100 countries are participating.

Mar. 26—The U.N. Water Conference adjourns without any major decisions.

ANGOLA

(See *Cuba; Zaire*)

ARGENTINA

(See also *U.S., Foreign Policy*)

Mar. 1—In Buenos Aires, Minister of Defense José María Klix says that because of U.S. intervention in Argentina's affairs with regard to the human rights issue, the government will not accept military sales credits from the U.S.

Mar. 5—In a visit to Peru, President Jorge Rafael Videla agrees to provide Peru with a research nuclear reactor.

BANGLADESH

Apr. 21—President Abu Sadat Mohammed Sayem resigns; chief martial law administrator Major General Ziaur Rahman succeeds him.

BELGIUM

Mar. 3—In a dispute over the budget, Prime Minister Leo Tindemans requests the resignation of 2 Cabinet members.

Mar. 9—Prime Minister Tindemans dissolves Parliament and calls for a general election on April 17.

Apr. 17—Parliamentary elections are held.

Apr. 18—Election returns give Prime Minister Leo Tindemans' Social-Christian party 8 additional seats in the lower house.

BENIN

Apr. 6—In the United Nations Security Council, a Benin delegate charges that "reactionary neo-colonialist circles" and their "African accomplices" spearheaded the attempted overthrow of President Mathieu Kerekou in January.

BRAZIL

(See also *Germany, West; U.S., Foreign Policy*)

Mar. 11—As a result of the U.S. report on the human rights situation in Brazil, the Foreign Ministry cancels the 25-year-old military assistance pact with the U.S. The ministry claims the report constitutes "intolerable interference in internal affairs."

Apr. 1—Following congressional failure to pass a government-sponsored judicial reform bill, President Ernesto Geisel suspends Congress for an indefinite time.

Apr. 14—President Geisel tightens the electoral laws to insure the reelection of pro-government officials.

CAMBODIA

Mar. 29—*The New York Times* reports that the government has refused a U.S. request for an official meeting with members of a U.S. delegation seeking information about U.S. servicemen still missing in Southeast Asia.

CANADA

Apr. 1—In Quebec, the provincial government submits a bill to the assembly calling for the establishment of a "French society" and rejecting Ottawa's proposal to establish a French-English-speaking province.

CHAD

Apr. 1—The government reports an attempted coup d'état; 8 people are killed in fighting between dissident soldiers and government troops.

CHILE

Mar. 11—President Augusto Pinochet extends for 6 more months the state of siege under which the government may hold political prisoners without charge or a court order, censor mail, and impose press restrictions.

Mar. 12—The government bans all non-Marxist political parties.

CHINA

(See also *Zaire*)

Mar. 7—According to radio broadcasts, new leaders are appointed for Heilungkiang, Kiangsu, Chekiang and Kweichow provinces. It is reported that new editors have been named to the party newspaper, *Jenmin Jih Pao,* and the party magazine, *Hung Chi.*

Mar. 12—Wall posters in Canton announce the appointment of former Deputy Prime Minister Teng Hsiao-ping as Deputy Chairman of the Chinese Communist party and Prime Minister.

Apr. 9—U.S. President Jimmy Carter's son, Chip, arrives in Peking with an 18-member U.S. delegation.

Apr. 12—The government circulates additional charges of subversive activities against 4 former members of the Politburo, including Chiang Ching, Chairman Mao Tse-tung's widow.

Apr. 15—The 5th volume of Chairman Mao's *Selected Works* is published. The first 4 volumes were originally published in 1951.

CONGO

Mar. 19—In Brazzaville, President Marien Ngouabi is assassinated by a "suicide commando" team led by former army Captain Barthelemy Kikadidi.

The Central Committee of the Congolese Workers party assigns an 11-member committee to administer the government. The committee closes the borders, imposes an 11 p.m. curfew, and bans all public meetings of 5 or more people.

Mar. 23—The government announces the murder of Roman Catholic Archbishop of Brazzaville Emile Cardinal Biayenda.

Mar. 25—Former President Alphonse Massamba-Debat is found guilty of plotting to murder President Ngouabi and is executed.

Apr. 4—Former Minister of Defense and Army Chief of Staff Colonel Joachim Yombi Opango is named President to succeed the late Marien Ngouabi.

Apr. 5—President Opango suspends the constitution and appoints a new Cabinet.

Apr. 6—The military committee dissolves the National Assembly.

CUBA

(See also *U.S., Foreign Policy*)

Mar. 14—President Fidel Castro arrives in Addis Ababa, Ethiopia, from Mogadishu, Somalia, after visiting Algeria and Libya.

Mar. 17—Castro arrives in Dar Es Salaam, Tanzania, for a 5-day visit and meets with Tanzanian President Julius K. Nyerere.

Mar. 23—President Castro arrives in Luanda, Angola, on a Soviet plane that flew him from Mozambique. He is greeted by Angolan President Agostinho Neto.

Apr. 2—President Castro leaves Algeria at the end of his African tour and flies to East Berlin.

Apr. 8—Castro completes a 4-day visit in Moscow; he and Soviet Communist party leader Leonid I. Brezhnev issue a communiqué pledging continued support for national liberation movements.

Apr. 22—During meetings with U.S. businessmen in Havana, government officials admit that the Cuban economy is in trouble.

CZECHOSLOVAKIA

Mar. 1—In Prague, Netherlands Foreign Minister Max van der Stoel meets with Czech dissident and spokesman for the human rights manifesto, "Charter 77," Jan Patocka. This is the 1st meeting between a foreign government official and a Czech human rights spokesman.

Mar. 13—Jan Patocka dies in a Prague hospital. He was hospitalized March 4 after intensive questioning by the Ministry of Interior.

EGYPT

Mar. 29—In Cairo, Egypt and the Soviet Union sign a trade protocol; it calls for a 14 percent increase in trade between the 2 countries over the next year.

Apr. 4—President Anwar Sadat meets with U.S. President Jimmy Carter in Washington, D.C. Sadat says that the Arab-Israeli conflict in the Middle East cannot be settled until the Palestinian refugee problem is resolved.

EL SALVADOR

Mar. 17—The government refuses further military aid from the U.S. because of U.S. interference with El Salvador's policy on human rights.

ETHIOPIA

(See also *Cuba*)

Mar. 10—Unofficial sources report that 268 "counter-revolutionaries" were killed last week in fighting near the Sudanese border town of Mettema.

Mar. 11—The government appoints 7 new members to the Cabinet.

Mar. 24—Amde Michael Kashki, a spokesman for the Eritrean People's Liberation Front, reports the fall of the formerly government-controlled district capital of Nakfa.

Apr. 10—Second Lieutenant Negussie Negassa, a member of the Marxist Military Council, dies 2 days after he was kidnapped by bandits.

Apr. 11—In an appeal to the Organization of African Unity, the government charges that Sudanese-supported guerrillas are attacking towns in the northwest section of the country.

Apr. 23—The government orders the closing of 4 U.S. military and government offices; their personnel are to leave the country within 4 days.

Apr. 24—The government orders Belgium, France, Britain, Italy and Sudan to close their consulates in the province of Eritrea.

Apr. 25—The government tells the 3 remaining Western journalists to leave the country within 48 hours.

Apr. 27—The airlift of Americans from the country is completed.

Apr. 28—The government orders citizens to prepare to answer "an emergency call of the motherland."

FIJI

Apr. 4—Following the defeat of the Alliance party in the general elections, Prime Minister Sir Kamisese Mara announces his resignation.

FRANCE

(See also *Zaire*)

Mar. 13—In the 1st stage of nationwide municipal elections,

former Prime Minister Jacques Chirac wins 28 percent of the vote in the Paris mayoralty race; Giscardist candidate Michel d'Ornano wins 20 percent.

Leftist candidates win about 52.5 percent of the total nationwide vote, and the center-right parties win about 45.5 percent.

Mar. 20—In final voting, the Socialist-Communist coalition wins control of 21 major cities; the left controls more than 75 percent of the major cities.

In Paris, former Prime Minister Chirac wins the mayoralty election.

Mar. 28—Prime Minister Raymond Barre submits his resignation to President Valéry Giscard d'Estaing. Giscard asks Barre to form a new Cabinet.

Mar. 30—President Giscard announces the makeup of a new 15-member Cabinet—3 prominent political figures have been dropped.

Apr. 2—In Paris, President Giscard meets with U.S. Secretary of State Cyrus R. Vance.

Apr. 26—President Giscard presents an economic package to Parliament; he proposes tax incentives to encourage business to expand and to employ more workers.

GERMANY, FEDERAL REPUBLIC OF (WEST)

(See also *Zaire*)

Mar. 15—In Washington, D.C., Defense Minister George Leber meets with U.S. Secretary of Defense Harold Brown and U.S. President Jimmy Carter.

Apr. 7—Siegfried Buback, the government's chief prosecutor, is killed when his limousine is straffed by machine gun fire. His driver is also killed and a passenger is wounded. Buback was conducting the proceedings against the leaders of the Baader-Meinhof gang of urban terrorists.

Apr. 8—Klaus Terfloth, a spokesman for the Foreign Ministry, announces the government's decision to sell Brazil up to $5-billion worth of nuclear power plant materials.

Apr. 26—Chancellor Helmut Schmidt says his government will develop nuclear power reactors for export as a major industry; reactors will be sold "to any country that wants one or more than one."

Apr. 27—The government announces a 4-year, $2.7-billion energy research program for the development of nuclear power and plutonium-based reactors.

Apr. 28—Andreas Baader and 2 other members of the Baader-Meinhof gang are sentenced to life imprisonment for the murder of 4 American soldiers in the course of terrorist bombings.

GUATEMALA

(See *U.S., Foreign Policy*)

INDIA

(See also *U.S.S.R.*)

Mar. 15—The government-controlled news agency, Samachar, reports that Sanjay Gandhi, Prime Minister Indira Gandhi's son, escaped injury during an assassination attempt March 14 while he was campaigning 300 miles southeast of New Delhi.

Mar. 16—4-day parliamentary elections begin.

Mar. 22—Prime Minister Gandhi is defeated in her bid for reelection to Parliament; her Congress party is also defeated. Complete election returns give the opposition parties a majority in the lower house: the Janata party wins 269 seats; the Congress party wins 152 seats; and the Congress for Democracy wins 28 seats. Sanjay Gandhi is defeated in his rural area.

Prime Minister Gandhi resigns.

Mar. 24—Parliamentary members of the Janata party elect Morarji R. Desai as Prime Minister.

Desai is sworn in as Prime Minister by Acting President B. D. Jatti.

Mar. 26—Prime Minister Desai announces the names of his 19 Cabinet ministers.

Mar. 27—Following 2 days of dispute, former Agriculture Minister Jagivan Ram agrees to join Desai's Cabinet as Minister of Defense.

Mar. 28—In its 1st policy statement, the new government says that it plans the immediate reversal of the authoritarian patterns established by former Prime Minister Gandhi.

Apr. 1—Home Minister Charan Singh says that there will be a "thorough" investigation into the charges of corruption that involve former Prime Minister Gandhi, her son, and a former Defense Minister.

Apr. 2—Minister of Health and Family Planning Raj Narain says that the government's birth control program will be modified to avoid "compulsory sterilization."

Apr. 5—Home Minister Singh tells Parliament that 28,836 people were detained by the Gandhi government during its 21 months of emergency rule.

Apr. 18—The government confiscates the passports of Gandhi, Sanjay Gandhi, and former Defense Minister Bansi Lal while investigating their financial dealings.

Apr. 20—The government refuses a Soviet offer to provide a $450 million credit for the construction of a steel mill.

Apr. 30—Following a favorable Supreme Court decision, Acting President B. D. Jatti dissolves the 9 state assemblies where the Congress party won a majority in the recent elections; he calls for new elections in those states.

ISRAEL

(See also U.S., *Foreign Policy*)

Mar. 13—In Washington, D.C., Prime Minister Yitzhak Rabin says that "Israel will not return to the lines that existed before the 1967 war." Rabin is responding to U.S. President Jimmy Carter's comment of March 9 that Israel should give up virtually all territory captured from the Arabs in the 1967 war as part of a Middle East settlement.

Mar. 15—Prime Minister Rabin's wife, Lea, admits that she is maintaining a bank account of $2,000 in the United States in violation of Israeli law.

Mar. 28—Former Defense Minister Moshe Dayan withdraws from the Labor party ticket in the May parliamentary election.

Apr. 8—*Maariv,* an Israeli newspaper, charges that Rabin lied about the amount of money he held in a U.S. bank; the newspaper reports that an investigation by the Treasury Department has revealed that the Rabins had up to $20,000 in a U.S. bank account.

Rabin withdraws his name for reelection as Prime Minister on the Labor party ticket.

Apr. 9—Foreign Minister Yigal Allon says that he will not allow the Labor party to nominate him for Prime Minister.

Apr. 10—Defense Minister Shimon Peres is nominated by the Labor party as its candidate for Prime Minister.

Apr. 11—Rabin is fined $1,500 for keeping an illegal bank account in the U.S.

Apr. 12—Foreign Minister Allon says that Israel will not tolerate Palestinian guerrilla attacks on Christian villages in southern Lebanon, adjacent to Israel's northern border.

Apr. 17—Lea Rabin is fined $27,000 for keeping $21,101 in an illegal bank account in the U.S.

Rabin tells the Cabinet that he will begin an extended vacation April 22. Shimon Peres will become Acting Premier until a new government is formed.

ITALY

Mar. 10—Parliament votes to lift their immunity and send 2 former Cabinet ministers to trial on charges of accepting bribes from the U.S. Lockheed Aircraft Corporation.

Apr. 2—The government reaches an agreement with trade unions on the relationship between wages and the cost of living index.

Apr. 16—The U.S. and other industrial nations agree to lend Italy $1 billion to help her ailing economy.

JAPAN

(See also *U.S., Foreign Policy*)

Mar. 11—The Bank of Japan announces a reduction in the official discount rate from 6.5 percent to 6 percent, effective March 12.

Mar. 21—Prime Minister Takeo Fukuda meets with U.S. President Jimmy Carter in Washington, D.C.

Mar. 29—The government extends Japan's fishing boundaries to 12 nautical miles. Parliament must approve the measure.

Apr. 27—In Tokyo, Prime Minister Fukuda meets with Philippine President Ferdinand Marcos to discuss Asian defense policies.

KOREA, REPUBLIC OF (SOUTH)

Apr. 18—The National Council of Catholic Priests calls for the repeal of the 1972 constitution and the 1975 emergency decrees issued by President Park Chung Hee.

Apr. 21—President Park continues the nationwide roundup of political opponents; during the last week, more than 40 people have been taken into custody.

LAOS

Mar. 13—It is reported that King Savang Vatthana, the former Crown Prince, and 2 others were arrested March 12. The Crown Prince is accused of plotting last week's attack by rebels in the Luang Prabang area.

Apr. 9—Prime Minister Kaysone Phomvihane makes his first public appearance since he took office 16 months ago.

Apr. 10—A state of alert is declared in Vientiane because of increasing tension between Laos and Thailand over the March seizure by Thai guerrillas of a Laotian island in the Mekong River.

Apr. 11—Government forces recapture the island held by Thai guerrillas.

LEBANON

Mar. 16—In the outskirts of Beirut, Muslim Druse chieftain Kamal Jumblat is assassinated; his driver and bodyguard are also killed by machine-gun fire.

Mar. 18—In an area near Jumblat's home in the Chouf mountain region, nearly 200 Christians have reportedly been killed in reprisal for the assassination of Jumblat.

Mar. 19—Nearly 4,000 Syrian soldiers are sent to the Chouf mountains to maintain order.

Mar. 27—The Arab League votes to extend its peacekeeping mission for 6 more months. League members vote to provide $90 million toward the cost of keeping the troops in Lebanon.

Mar. 28—Despite opposition from right-wing Christian leaders, President Elias Sarkis appoints Colonel Victor Khoury as army commander. He replaces General Hannah Saeed, who favored the right-wing Christians.

Apr. 7—Palestinian guerrillas and leftist Muslim forces recapture the Shiite Muslim town of Khaim in southern Lebanon; Khaim, close to the Israeli border, has been under Christian control for more than 2 months.

MEXICO

(See *Spain*)

MOROCCO

(See *Zaire*)

MOZAMBIQUE

(See also *Cuba*)

Apr. 23—According to U.S. intelligence reports, the Soviet Union is supplying Mozambique with antiaircraft weapons and artillery for possible use against Rhodesian aircraft.

NAMIBIA

Apr. 27—In Cape Town, representatives from France, West Germany, the U.S., the U.K., Canada and South Africa begin talks on the status of Namibia (South-West Africa).

NETHERLANDS

Mar. 22—As a result of a dispute in the 5-party coalition Cabinet, Prime Minister Joop den Uyl submits the Cabinet's resignation to Queen Juliana.

NEW ZEALAND

Mar. 7—During a visit to New Zealand, Queen Elizabeth names former Prime Minister Keith Holyoake as Governor General.

NICARAGUA

Mar. 1—Roman Catholic bishops accuse the government of President Anastasio Somoza Debayle of using torture and of executing leftist guerrillas. They claim that government troops have executed at least 86 civilians, 29 of them children, in 2 mass executions since December, 1976.

NIGERIA

Mar. 16—The Supreme Military Council dismisses 4 military officers and 3 civilian members from the Cabinet and names civilians to replace them.

NORWAY

Apr. 30—A blowout causing an oil leak in a Phillips Petroleum Company North Sea oil well is finally capped; millions of tons of crude oil leaked into the North Sea before the blowout was capped.

PAKISTAN

Mar. 7—Parliamentary elections are held.

Mar. 9—Election returns show that Prime Minister Zulfikar Ali Bhutto's Pakistan People's party and its allies have won 80 percent of the parliamentary seats.

Newly elected opposition members refuse to take their seats; they charge that the election was rigged.

Mar. 11—In Karachi, the Pakistan National Alliance, a coalition of 9 opposition political parties that was defeated in the election, calls for a general strike. Army tanks and troops are brought into the city to quell the violence.

Mar. 14—Demonstrations continue in cities across the country to protest the elections. Demonstrators demand Bhutto's resignation.

Mar. 19—The government places a section of Karachi under military control. Spokesmen for the opposition say that 50 people have been killed and 400 wounded since yesterday.

Mar. 25—24 opposition leaders are arrested.

Mar. 28—Parliament votes to reelect Bhutto Prime Minister; members of the opposition still refuse to take their seats.
Apr. 17—In a press conference, Prime Minister Bhutto outlines a new social policy designed to meet some opposition demands.
Apr. 18—Opposition groups reject Bhutto's attempt at conciliation.
Apr. 20—Demonstrations continue; commercial activity at the port city of Karachi is halted by work stoppages.
Apr. 21—Bhutto imposes martial law in major cities and assumes emergency powers.
Apr. 25—The government eases the curfew imposed on major cities so that residents can go to work.
Apr. 27—Bhutto forces the Cabinet to accept General Tikka Khan to deal with the armed forces during the current political crisis. Tikka Khan, regarded as a loyal retired army general, is named Minister of State for Defense.

PERU

(See *Argentina*)

PHILIPPINES

(See also *Japan*)

Apr. 18—A referendum is held in 13 southern Muslim provinces to determine their form of government.
Apr. 19—Election returns show that 98 percent of those voting oppose a government run by the separatist Moro National Liberation Front. The Moro National Front has called for a boycott of the elections.
Apr. 30—After 6 months of negotiations on ending the Muslim insurgency in the southern Philippines, government officials and representatives from Muslim Middle Eastern states end their talks without reaching any agreement.

RHODESIA

(See also *Mozambique*)

Mar. 4—Prime Minister Ian D. Smith names Minister of Lands and Natural Resources Mark Partridge as Defense Minister. Former Defense Minister Reginald Cowper resigned last month. Roger Hawkins is named to the newly created post of Minister of Combined Operations, a Cabinet office responsible for the war against black nationalist guerrillas.
Apr. 11—British Foreign Secretary David Owen meets in Dar Es Salaam with Rhodesian Patriotic Front leader Robert Mugabe.
Apr. 13—In Salisbury, British Secretary Owen meets with Prime Minister Ian D. Smith to discuss the Rhodesian situation.

The ruling Rhodesian Front gives Prime Minister Smith responsibility for negotiating a constitutional settlement with black nationalists.

ROMANIA

Mar. 4—An earthquake hits Bucharest.
Mar. 10—President Nicolae Ceausescu reports the toll from the earthquake at 1,387 dead and 10,500 injured; 100 large city blocks were evacuated.

SOUTH AFRICA

(See also *Namibia; U.K., Great Britain*)

Apr. 29—The government postpones a planned 40 to 80 percent rent increase in black sections of Johannesburg.

SPAIN

Mar. 11—The government declares an amnesty for most of the 170 political prisoners who have been in prison since they were tried during the regime of Generalissimo Francisco Franco.
Mar. 28—In Paris, it is announced that the Mexican government and the Spanish government have reestablished diplomatic relations. Relations were broken off in 1939.
Apr. 9—The government legalizes the Communist party, which has been outlawed since 1939.
Apr. 12—To protest the government's legalization of the Communist party, Navy Minister Admiral Gabriel Pita da Veiga y Sanz resigns from the Cabinet.
Apr. 19—4 more Cabinet members resign to protest the legalization of the Communist party.

TANZANIA

Apr. 25—A special assembly formally adopts a constitution, which replaces an interim document adopted when Tanganyika and Zanzibar merged 13 years ago.

THAILAND

(See also *Laos*)

Mar. 4—In Bangkok, foreign ministers from Thailand and Malaysia sign a border agreement that establishes joint border patrols for "hot pursuit" across either country's border if troops are chasing guerrilla insurgents.
Mar. 27—In Bangkok, an attempted coup d'état fails; 4 military officers are arrested. General Arun Thavathasin, commander of the First Army Division, is the only reported casualty.
Apr. 21—General Chalard Hiranyasira, accused of plotting the attempted coup d'état in March, is executed without trial; 4 others involved in the coup are sentenced to life imprisonment.

UGANDA

(See also *Zaire*)

Mar. 1—President Idi Amin postpones indefinitely his demand for a meeting with Americans living in Uganda; he lifts the ban on traveling he had imposed on Americans.
Mar. 3—In Nairobi, Kenya, refugees from Uganda tell of the imprisonment and torture of members of the Christian Lango and Acholi tribes.

U.S.S.R.

(See also *Cuba; Egypt; Mozambique; U.S., Foreign Policy*)

Mar. 8—In Moscow's Red Square, 10 protesters unfurl a banner that calls for their right to emigrate. This is the 1st time since 1968 that dissidents have demonstrated in Red Square. The demonstrators are taken away by security police.
Mar. 13—An article in *Pravda,* the Communist party newspaper, says that U.S. President Jimmy Carter's position on human rights may affect the mood of the strategic arms agreement negotiations.
Mar. 21—In Moscow, Leonid I. Brezhnev accuses the U.S. of interfering in the internal affairs of the Soviet Union.
Mar. 22—Less than a week after Cuban President Castro's visit to Tanzania, President Nikolai V. Podgorny arrives in Tanzania to begin a tour of Africa aimed at strengthening African-Soviet relations.

Mar. 31—In Moscow, Foreign Minister Andrei A. Gromyko accuses the U.S. of unrealistic demands for arms limitation.

Apr. 3—Articles in *Izvetzia* (the government newspaper) and *Pravda* report that the Soviet leadership expects the U.S. to take the initiative to mend relations damaged during the strategic arms talks in Moscow last week.

President Podgorny returns to the Soviet Union after a 2-week, 4-nation tour of East Africa that included Tanzania, Zambia, Mozambique and Somalia.

Apr. 4—Cuban Prime Minister Fidel Castro arrives in Moscow after his African tour. He is met at the airport by Communist party Secretary Leonid I. Brezhnev.

Apr. 7—In Moscow, Brezhnev meets with Palestine Liberation Organization leader Yasir Arafat. This is the 1st public meeting between the two leaders.

Apr. 19—In Moscow, Syrian President Hafez al-Assad completes 2 days of talks on the Middle East with Soviet leaders.

Apr. 27—A joint communiqué issued at the end of a 3-day visit in New Delhi by Foreign Minister Gromyko reaffirms the intentions of the Indo-Soviet treaty of friendship of August, 1975. 2 aid agreements are signed; India will receive a 20-year loan of nearly $300 million for the purchase of equipment; trade between the 2 countries will be increased.

UNITED KINGDOM

Great Britain

(See also *Rhodesia*)

Mar. 14—In London, a surplus of $53 million in the February balance of payments is reported. This is the first time in 11 months that there has been a surplus.

Mar. 15—Prime Minister James Callaghan returns to London after visiting U.S. President Jimmy Carter in Washington, D.C., and Canadian Prime Minister Pierre Elliott Trudeau in Canada.

Mar. 23—The Labor party wins a vote of confidence by 24 votes, 322 to 298. The Labor party is supported by the Liberal party.

Mar. 29—Chancellor of the Exchequer Denis Healey announces cuts in personal income taxes and promises to make additional cuts if the trade unions agree to renew their voluntary pay restraints.

Mar. 31—Defense Secretary Fred Mulley informs the House of Commons that the government will establish its own radar defense system instead of joining an American system for the North Atlantic Treaty Organization.

Apr. 13—In Cape Town, Foreign Secretary David Owen proposes that Britain and the U.S. convene a conference on Rhodesia. He meets separately with South African Prime Minister John Vorster and with Rhodesian Prime Minister Ian D. Smith.

Apr. 19—In London, Owen reports to Parliament on his African trip.

Northern Ireland

Apr. 4—In Belfast, 33 people are injured when bombs explode in 2 restaurants almost simultaneously. The Irish Republican Army warned police 10 minutes before the explosions.

UNITED STATES

Administration

Mar. 1—President Jimmy Carter says he favors extending a special federal loan program for New York City for "five or six years" after its present June 30, 1978, expiration date.

Mar. 2—President Carter orders federal departments to fill only 75 percent of the federal civilian job vacancies until new ceilings on the number of federal employees have been set by the Office of Management and Budget.

White House press secretary Jody Powell says that 450,000 letters have been mailed from the White House to Americans across the country asking for suggestions on a new national energy program: the President will outline the new program to the nation April 18.

Mar. 3—President Carter names Georgia banker Bette B. Anderson as Under Secretary of the Treasury and University of Massachusetts vice president Jay Janis as Under Secretary of the Department of Housing and Urban Development.

Mar. 4—The President urges Congress to reduce federal control over the airline industry; he says that "regulation . . . now stifles competition . . . and it has denied consumers lower fares where they are possible."

Mar. 5—The Army Corps of Engineers recommends a $4.6-billion project to supply Hudson River water for drinking purposes to New York City and Nassau County; the project would be funded totally by federal funds and would ward off a shortage estimated at 390 million gallons a day by the year 2000.

President Jimmy Carter responds to 42 telephone callers at random in 26 states in a 2-hour "Ask President Carter" radio program; listeners call a toll-free number to the White House.

Mar. 6—Officials of the American Telephone and Telegraph Company say that between 9 million and 9.5 million Americans tried to call President Carter on his 2-hour call-in radio program; 42 calls reached the President.

Mar. 7—White House deputy press secretary Rex Granum reports that President Carter has asked Cabinet members to cut down excessive employee salaries "when they have the opportunity to do so."

Secretary of Housing and Urban Development Patricia Harris tells 2,500 city officials meeting in Washington, D.C., that cities that do not comply with the intent of the $3.2 billion Community Development Act and provide projects for low and moderate income residents will be deprived of CDA funds.

President Carter names Pittsburgh Mayor Peter Flaherty Deputy Attorney General.

Mar. 8—Byron Pepitone, director of the Selective Service System, resigns effective next month; he has been director since May, 1972.

Admiral Stansfield Turner is sworn in as director of the Central Intelligence Agency.

Mar. 9—President Carter sends Congress a $1.842-billion jobs program designed to benefit Americans under 24 years of age over the next 18 months; the program would provide jobs and training for some 283,000 of the 3.4 million unemployed in that age group.

The Food and Drug Administration proposes to ban the use of saccharin in foods and drinks; the suspension order will be issued in the next month; according to the FDA, laboratory tests in Canada show that large amounts of saccharin fed to rats cause cancer of the bladder.

Mar. 11—Treasury Secretary W. Michael Blumenthal approves a $255 million, short-term federal loan to New York City until June 30.

Mar. 14—The U.S. International Trade Commission recommends a tariff that would raise the price of foreign-made television sets by an average of $56 and urges a one-third reduction in the import quota on foreign sugar.

Mar. 16—President Jimmy Carter arrives in Clinton, Mass.,

on his first "meet the people" trip; he attends a town meeting.

Mar. 18—Secretary of Transportation Brock Adams asks Congress to set up a $200-million federal fund to repay people and cities who suffer damage in oil spills.

The General Accounting Office says that the Department of Justice has spent about $80 million to fight organized crime in the last 10 years and still has no national strategy for fighting organized crime.

Chief lobbyist for consumer activist Ralph Nader, Joan Claybrook, is nominated by President Carter to head the National Highway Traffic Safety Administration.

Mar. 21—The White House press office announces that Philadelphia tax lawyer Jerome Katz will be nominated as Commissioner of Internal Revenue, replacing Donald Alexander.

Mar. 22—In a letter to Congress, President Carter asks for $45 million in additional funds to expand the facilities and capacities of Radio Free Europe and Radio Liberty and the Voice of America.

In an electoral reform message to Congress, President Carter proposes the end of the electoral college; he suggests that the President and Vice President of the United States be elected by simple majority of the popular vote. The President also proposes the relaxation of restrictive state laws on voter registration to ensure virtual universal registration of voters and urges federal campaign subsidies for congressional candidates.

Mar. 23—White House press secretary Jody Powell reports that 48 members of the President's White House staff including his senior advisers will receive raises somewhat less than the maximum allowed under the new federal pay scale approved by President Gerald Ford.

In a special message to Congress, the President urges a program of grants and loans totaling $844 million to aid western and plains states suffering from drought.

Mar. 24—Secretary of Labor F. Ray Marshall asks Congress to raise the minimum wage from $2.30 to $2.50 per hour. Organized labor has been seeking a $3.00-an-hour minimum.

The Federal Election Commission rules that the election law of 1975 does not prevent members of Congress from accepting cash gifts for personal use so long as they are not used in election campaigns; the commission offers no opinion on Internal Revenue rules or federal bribery laws that might affect this type of fund-raising.

Former President Gerald Ford visits President Carter in the White House.

Apr. 4—President Jimmy Carter appoints consumer adviser Esther Peterson as Special Assistant to the President for consumer affairs.

Apr. 5—In testimony before the House Agriculture Committee, Secretary of Agriculture Bob Bergland outlines proposals that would eliminate the cash purchase price for food stamps and would add an additional 2.5 million people too poor to purchase the food stamps to the program.

Apr. 12—Acting on the recommendation of Attorney General Griffin Bell, President Carter commutes the 20-year prison term of Watergate burglar G. Gordon Liddy to 8 years; he will be eligible for parole in July, 1977.

Apr. 14—President Carter appoints John H. Fanning as chairman of the National Labor Relations Board, succeeding Betty S. Murphy.

President Carter announces that he will no longer seek a $50 tax rebate for all taxpayers because the reviving economy needs no further stimulation; he also withdraws his support from 2 measures that would have given businessmen increased tax credits.

Apr. 18—In a nationally televised broadcast, the President warns that the U.S. faces "national catastrophe" unless it adopts a stringent fuel conservation program that includes higher prices for energy. He discusses some details of the program he will propose to Congress April 20.

President Carter makes public a CIA report that predicts "sizable price increases" for oil and probable similar price increases for all forms of energy by 1982-1983, "unless large-scale conservation measures cut demand sharply."

The 7-member Commission on Postal Service established by Congress in 1976 recommends that the service receive increased subsidies and cut postal deliveries to 5 days per week.

Apr. 19—The Post Office Department announces a surplus of about $5 million for the year ending March 25.

Apr. 20—In an address to a joint session of Congress, President Carter outlines his proposed energy program; his program is designed to increase the cost of fuels and eliminate wasteful industrial and popular uses of energy. Gasoline would be taxed in 5-cents-per-gallon increments to a maximum increase of 50 cents by 1987 if the goal of a 10 percent reduction in consumption were not met by 1987; the 5 cents per gallon increment would be imposed, starting January 15, 1979, if gasoline consumption exceeded stated targets; domestic crude oil would be taxed in 3 annual stages beginning in January, 1978, to raise its price to match world oil prices; the tax would increase as world prices increase after that period. Some tax money would be returned to consumers in the form of tax credits.

Apr. 25—President Jimmy Carter asks Congress to act by October 1 to control the rapidly rising fees charged by the nation's 6,000 general hospitals. He proposes a ceiling on rate increases of 9 percent per year.

Apr. 28—After a four-year delay, Joseph A. Califano, Jr., Secretary of Health, Education and Welfare, signs a regulation making the controversial Rehabilitation Act of 1973 effective. Discrimination in the employment, education and treatment of the handicapped, including rehabilitated alcoholics and drug addicts, is prohibited. The new regulation, effective June 1, applies to schools, colleges, hospitals and other institutions receiving HEW funds.

Civil Rights

Mar. 8—Federal district court Judge Robert Duncan rules that the Columbus, Ohio, school system is racially segregated. He orders the school system to submit a corrective plan to the court within 90 days.

Economy

Mar. 4—The Labor Department reports that the unemployment rate rose 0.2 percent in February to 7.5 percent.

Mar. 10—The Labor Department says that wholesale prices rose 0.9 percent in February.

Mar. 16—The Commerce Department reports that housing starts increased 29.2 percent in February, a record increase.

Mar. 18—The Labor Department reports the largest increase in 2½ years in consumer prices in February—a rise of 1 percent in the consumer price index.

Mar. 21—Secretary of Agriculture Bob Bergland recommends a 4-year farm bill guaranteeing increased farm income.

Mar. 22—Secretary of Agriculture Bergland announces that increased milk price supports that will increase milk prices to consumers by approximately 6 cents per gallon will go into effect April 1.

Mar. 28—The Commerce Department reports a record trade deficit of $1.87 billion for February.

Mar. 30—The Commerce Department reports that its index of leading economic indicators rose 0.4 percent in February.

Apr. 1—The Labor Department reports that the nation's unemployment rate fell to 7.3 percent in March.

Apr. 7—The Labor Department reports a 1.1 percent rise in wholesale prices in March, the largest jump in 17 months.

Apr. 15—At a news conference, President Carter asks business and labor to cooperate voluntarily to cut the nation's inflation rate by 2 percent by the end of 1979.

Apr. 20—The Commerce Department reports that the gross national product grew at an annual rate of 5.2 percent for the 1st quarter of 1977.

Apr. 21—The Labor Department reports a rise in the consumer price index of 0.6 percent in March.

Foreign Policy

(See also *Intl, I.D.A.*)

Mar. 1—President Jimmy Carter talks with Soviet dissident Vladimir Bukovsky at the White House.

Mar. 2—According to the State Department's deputy director of the Bureau of Political-Military Affairs, Richard Ericson, President Carter and his advisers are reviewing the U.S. Raytheon Corporation's agreement of June, 1976, to sell $1.14 billion in antiaircraft missiles to Saudi Arabia; the agreement was approved by President Gerald Ford.

Mar. 7—Welcoming Israeli Prime Minister Yitzhak Rabin to the White House, President Carter says he believes that Israel should have "defensible borders."

Speaking at a news conference in Washington, D.C., after 2 days of talks with President Carter, Israeli Prime Minister Yitzhak Rabin stresses Israel's insistence on a "real peace" in the Middle East in which the Arab countries will accept Israel; he rejects any role for the Palestine Liberation Organization at a new Geneva conference.

Mar. 9—President Carter announces that on March 18 travel restrictions on U.S. citizen travel to Cuba, Vietnam, North Korea and Cambodia will be removed.

At a news conference, President Carter says that he will withdraw U.S. ground forces from South Korea in 4 to 5 years. The President also reiterates that "the Arab nations, the Israeli nation, have to agree on permanent and recognized borders, where sovereignty is legal as mutually agreed. Defense lines may or may not conform in the foreseeable future to those legal borders." The President indicates that over an extended period of time, Israel should gradually return, with "minor adjustments," to her 1967 border with the Arab countries.

Mar. 10—President Carter welcomes British Prime Minister James Callaghan to the White House for 2 days of talks on economics, trade and interdependence.

Mar. 12—Secretary of State Cyrus Vance confers with the ambassadors of Egypt, Jordan, Lebanon and Syria to clarify the U.S. position on the Middle East.

President Carter meets with a 5-man American commission leaving for Hanoi and Laos on March 13 to seek information on more than 2,500 Americans missing in action (MIA's) still unaccounted for in Southeast Asia; the group is headed by United Auto Workers President Leonard Woodcock.

A State Department report, made public today, says that most of the 82 countries receiving U.S. security assistance violate human rights to some degree.

Mar. 17—President Jimmy Carter addresses the U.N. in New York.

El Salvador joins Argentina, Brazil, Guatemala and Uruguay in renouncing U.S. military aid, to protest the U.S. State Department report that they are among the 82 nations violating human rights.

Mar. 18—In a message to Congress requesting a $1.5-billion increase of foreign aid appropriations to $7.5 billion in the next fiscal year, President Carter promises to "root out" inefficiency in foreign aid programs.

The President signs legislation repealing the Byrd amendment that permitted the importation of chrome from Rhodesia in spite of U.N. sanctions forbidding such trade.

Mar. 20—Japanese Prime Minister Takeo Fukuda arrives in Washington, D.C., to meet with President Carter.

The special mission to Southeast Asia headed by Leonard Woodcock leaves Vientiane, Laos, for home.

Mar. 23—After meeting with the special mission to Southeast Asia at the White House, President Carter says he agrees with Vietnamese Prime Minister Pham Van Dong that "we [should] reinitiate diplomatic discussions in Paris without delay."

Mar. 24—U.S. and Cuban negotiators open talks in New York about the regulation of fishing waters between Cuba and the U.S.

Mar. 28—Secretary Vance and Soviet Communist party Secretary Leonid Brezhnev open talks in Moscow on ways to resolve the deadlocked strategic arms limitation talks.

Reliable sources report that the President has approved $2 billion in military construction and arms sales largely to North Atlantic Treaty Organization (NATO) members.

Mar. 30—Talks between Secretary of State Vance and Soviet leader Leonid Brezhnev end; no agreement is reached on American proposals for weapons limitations, and no Russian counterproposals have been made.

At a news conference at the White House, President Carter says that he is not "discouraged" by the U.S.-Soviet failure to agree on arms reduction but that he will be "forced to consider" an acceleration in U.S. weapons development if arms negotiations in Geneva in May make little progress.

Mar. 31—Secretary Vance flies from Moscow to Bonn and meets with West German Chancellor Helmut Schmidt; he then flies to London to meet British Prime Minister James Callaghan.

Apr. 3—Egyptian President Anwar Sadat arrives in Washington, D.C., for meetings with President Jimmy Carter and American officials to explore terms for peace in the Middle East.

Apr. 6—Speaking on British television, U.S. chief delegate to the U.N. Andrew Young says, "it would be in Britain's self-interest to have a little more backbone in facing up to race at home and abroad"; Britain is a "little chicken" on racial matters.

Apr. 7—In a statement from the White House, President Carter says that the U.S. will not use plutonium for fuel in reactors producing electric energy; he urges other countries to follow suit to combat the spread of nuclear weapons.

U.S. delegate to the U.N. Andrew Young sends a letter of apology to Ivor Richard, the British chief delegate to the U.N., for calling Britain "chicken" on racism.

Following the advice of his new advisory board on ambassadors, the President names 10 new ambassadors: among them, former Democratic Senator Mike Mansfield (Mont.), Ambassador to Japan, Wisconsin Governor Patrick Lucey, Ambassador to Mexico, Yale University President Kingman Brewster, Ambassador to the United Kingdom, former Princeton University President Robert Goheen, Ambassador to India.

Secretary of State Cyrus Vance confers in Washington, D.C., with Soviet Ambassador Anatoly Dobrynin about resuming strategic arms limitation talks.

Apr. 9—President Carter orders the Coast Guard to seize the Soviet fishing trawler *Taras Shevchenko* for violating the new U.S. 200-mile fishing zone limit; this is the first ship seized since the new limit went into effect on March 10. During the last 2 weeks, the President has rejected 3 requests from the Coast Guard to seize Soviet trawlers.

Apr. 10—State Department officials report the existence of a memorandum indicating that former President Richard Nixon told Chinese Prime Minister Chou En-lai in 1972 that he (Nixon) intended to normalize U.S.-Chinese relations during his second term of office.

Apr. 11—Secretary of State Cyrus Vance meets with Chinese Liaison Office head Huang Chen in Washington, D.C., to discuss Vance's recent meetings in Moscow.

Apr. 12—President Carter meets with Soviet Ambassador Dobrynin at the White House to discuss the strategic arms talks and the "question of Soviet fishing violations" in the new U.S. 200-mile zone.

Apr. 14—State Department spokesman Hodding Carter 3d. says that the U.S. is willing to cosponsor (with Britain) a new conference on Rhodesia.

Addressing the Permanent Council of the Organization of American States, President Carter outlines U.S. policy toward Latin America and reaffirms his stand on human rights.

Asked whether he considers the South African all-white government to be illegitimate, in an interview in Washington, D.C., Andrew Young responds "yeah."

Apr. 16—A State Department spokesman says that 3 Soviet trade unionists will not receive visas to attend the Seattle, Washington, convention of the International Longshoremen's and Warehousemen's Union next week; the anti-Communist AFL-CIO, which has always opposed the admission of any Communist union official to the U.S., has persuaded the State Department to refuse permission.

Apr. 19—State Department officials report that the President endorses the military bases agreement signed with Turkey in 1976 but will delay asking Congress for $1 billion in aid to Turkey over 4 years until Turkey makes concessions in Cyprus.

Apr. 26—The Pentagon reports that the transfer of 21 F-15 Eagle fighters to NATO European bases will begin April 27.

President Carter concludes talks with Jordan's King Hussein in Washington, D.C.; little progress toward Middle East peace is reported.

Director of the Arms Control and Disarmament Agency Paul Warnke reports that the U.S. and the U.S.S.R. will resume formal strategic arms limitation talks in Geneva on May 11.

President Carter approves the sale of $850 million worth of Boeing AWACS radar surveillance airplanes to Iran; Iran has not yet accepted the terms of the sale.

Apr. 27—President Carter submits legislation to Congress that would authorize the President to decide at his discretion whether "all nuclear material and equipment" in "non-nuclear countries" is being used subject to the regulations of the International Atomic Energy Agency. "Fulfillment of this requirement will be a condition of continuing U.S. nuclear supply."

Apr. 28—The U.S. and Cuba reach agreement on fishing rights in their overlapping fishing zones.

The International Institute for Strategic Studies (London) reports that the Soviet arms buildup is increasing the Soviet Union's military options.

Apr. 29—President Carter confers with Spanish Prime Minister Adolfo Suarez at the White House.

Legislation

Mar. 2—Chairman of the House Committee on Assassinations Henry Gonzalez (D., Tex.) resigns his post in a dispute with his committee.

Mar. 9—Voting 58 to 40, the Senate confirms Paul Warnke as director of the Arms Control and Disarmament Agency.

Mar. 22—The Senate votes 62 to 35 to defeat an effort to remove an $8,625 limitation on a Senator's earned outside income from a proposed Senate ethics code.

Mar. 23—Former Democratic Representative from Hawaii Patsy Mink is confirmed by the Senate as an Assistant Secretary of State.

Mar. 30—Chief counsel Richard Sprague of the House Committee on Assassinations resigns; the House votes to extend the life of the committee during the term of the 95th Congress.

Mar. 31—The Senate unanimously approves legislation authorizing the President to reorganize federal agencies; the House approved the bill 395 to 22 on March 29; the bill goes to the President.

Apr. 1—By an 86 to 9 vote after a 2-week debate, the Senate adopts a strict Senate ethics code, setting a $8,625 limit on outside earned income, limiting gifts, and requiring extensive financial disclosure; the code also provides for periodic audits by the General Accounting Office.

Apr. 7—Congress adjourns for its Easter recess.

Political Scandal

Apr. 30—*The New York Times* reports that White House tapes never before made public show that President Richard Nixon was personally involved in the Watergate cover-up 3 days after the break-in on June 17, 1972, at the Democratic party's national headquarters in Washington, D.C.

Supreme Court

Mar. 2—The Supreme Court rules 5 to 4 that the requirements in the Social Security Act that favor widows over widowers are unconstitutional; the case involves widowers' claims to Social Security survivors' benefits.

Mar. 23—The Court rules 5 to 4 that the constitutional right to counsel of the defendant in an Iowa murder case was violated when incriminating statements the defendant made without counsel to police were introduced at his trial. The Court does not reexamine the 1966 Miranda ruling on confessions.

Apr. 19—The Supreme Court rules 5 to 4 that even if the punishment is "severe," "excessive," and results in physical damage, teachers or other school officials who whip their pupils do not violate the pupils' constitutional rights under the Eighth Amendment, which bans cruel and unusual punishment.

By a deadlocked 4-4 ruling, the Supreme Court lets stand a lower court decision that permits the Philadelphia public school system to maintain one college preparatory high school solely for boys and another solely for girls.

Apr. 21—Court sources report that the justices have voted 5 to 3 to refuse to review the Watergate cover-up convictions of former Attorney General John Mitchell and former White House aides John Ehrlichman and H. R. Haldeman. The case has not been officially decided.

Apr. 22—In a brief submitted today, Attorney General Griffin Bell urges the Court to uphold a lower court ruling requiring the busing of 15,000 students in Dayton, Ohio, to desegregate the Dayton schools.

Apr. 27—The Court rules 4 to 3 that a New Jersey law forcing the Port Authority of N.Y. and N.J. to expand mass transit system programs is unconstitutional.

Terrorism

Mar. 11—12 members of the Hanafi Muslims who have been holding 134 hostages in 3 Washington, D.C., buildings since March 9 release their hostages and surrender to police; 1 person was killed and more than a dozen others injured in the siege. Hamaas Abdul Khaalis, the Hanafi leader, and 3 followers are released without bond and 8 others are held in jail. The ambassadors of 3 Islamic nations aided in the negotiations that ended the takeover.

URUGUAY

(See also *U.S., Foreign Policy*)

Mar. 1—Brigadier José Cardozo, a government spokesman, announces that the government is withdrawing its request for economic aid from the U.S. because of U.S. criticism of Uruguay's treatment of political prisoners.

VIETNAM

(See also *U.S., Foreign Policy*)

Mar. 17—In Hanoi, Prime Minister Pham Van Dong meets with U.S. representative Leonard Woodcock, president of the United Automobile Workers, who is a member of a U.S. diplomatic mission.

Mar. 18—The government returns to U.S. officials the remains of 12 pilots killed during the Vietnam war.

YEMEN

Apr. 10—In London, former Prime Minister Cadi Abdullah al-Hajari, his wife and an embassy official are shot to death outside a hotel.

YUGOSLAVIA

Mar. 15—Veselin Djuranovic is sworn in as Prime Minister. He replaces Dzemal Bijedic, who was killed in a plane crash in January, 1977.

ZAIRE

Mar. 10—The government radio reports an attack in the southern province of Shaba (formerly Katanga) Province by mercenaries from Angola. The invaders occupy three major cities in the province—Disenge, Dilolo, and Kapanga.

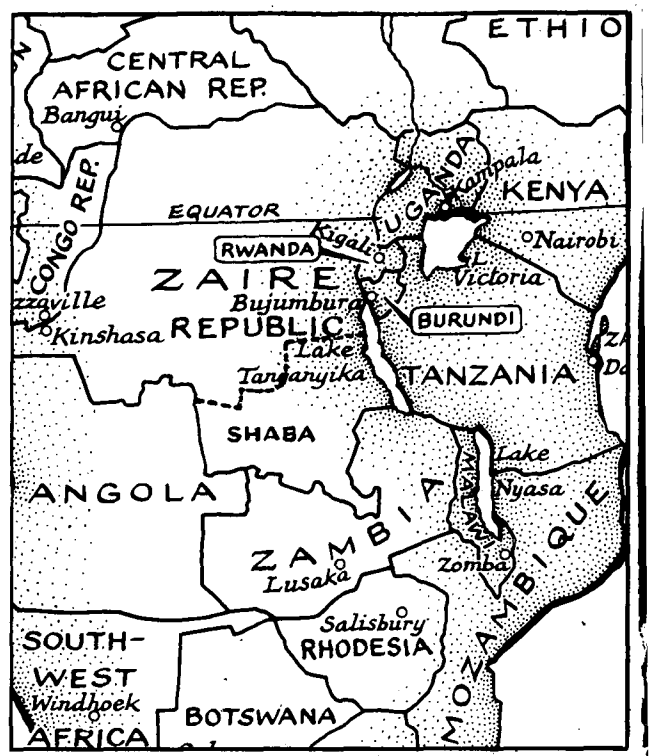
Mar. 15—In Washington, D.C., the U.S. State Department announces that it will provide spare parts and other military equipment requested by the Zaire government to help repel the Angolan forces.

Mar. 17—Angolan forces are reportedly heading for Kolwezi, the major copper-mining center, and Sandoa, a trading center. The Angolan forces, known as the National Liberation Front, are reportedly made up of former Katanga army members who fled to Angola when the secessionist rebellion led by the late Moise Tshombe failed in 1965.

Mar. 22—Chief of Staff General Bumba Moasso Djogi reports that Angolan forces are withdrawing after "heavy aerial bombardment."

Mar. 31—President Mobutu Sese Seko admits that government forces have been forced to withdraw from their headquarters in Mutshatsha and that Angolan forces are within 50 miles of Kolwezi. The Zaire military commander for the region is dismissed, and the government imposes press censorship on reports from that area.

Apr. 2—In a news conference, General Moasso claims that his soldiers have seen Russian, Cuban and Portuguese troops fighting alongside Katangan rebels in Shaba Province.



Apr. 4—The government breaks off diplomatic relations with Cuba.

Moasso is replaced as chief of staff by Belgian-trained General Babia Zingbi Molabia, according to diplomatic sources.

Apr. 7—President Mobutu reports that Moroccan troops will arrive April 8 to help put down the insurgents. He says that China is sending 30 tons of military equipment to assist the government forces.

Apr. 9—The first contingent of 1,500 Moroccan soldiers arrives in Shaba Province.

Apr. 10—In Paris, the French government says it is providing Morocco with military transport planes to facilitate the airlift of Moroccan troops to Zaire.

Apr. 11—The French Defense Ministry says that French military advisers are stationed in Zaire to teach Zairian soldiers to use French military equipment.

Apr. 12—The U.S. Department announces its decision to send Zaire an additional $13 million worth of "nonlethal" military equipment; this brings the total U.S. nonmilitary aid to $15 million in the last 2 months.

Apr. 14—In Bonn, the Foreign Ministry announces that West Germany is sending Zaire $2.1 million in "humanitarian and medical aid."

Apr. 15—Following a 3-week lull, fighting between government forces and Katangan rebels resumes in Shaba Province.

Apr. 17—A government communiqué reports that government troops, with the assistance of Moroccan forces, have attacked Katangan strongholds west of Kolwezi.

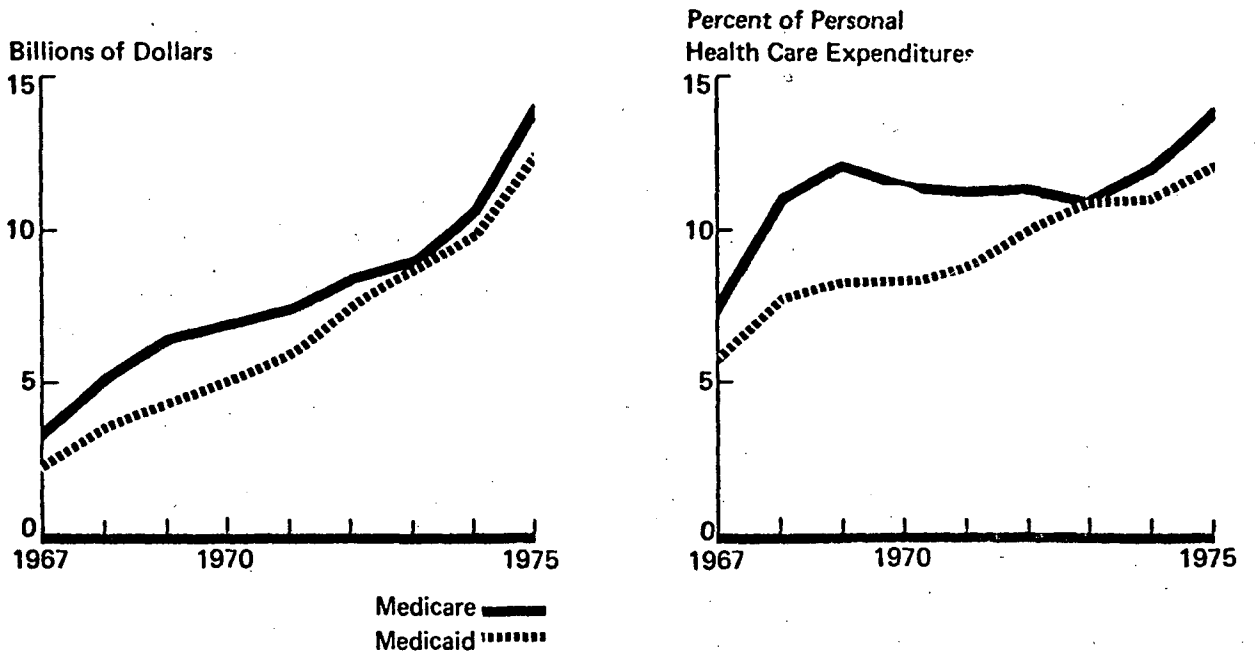
Apr. 22—Ugandan President Idi Amin arrives in Kinshasa to gain "first class information" about the conflict in Shaba Province. He promises military assistance if the Zaire government requests it.

Apr. 25—The government press agency reports that government troops have recaptured Mutshatsha, an important railroad town in southern Shaba Province. ■

Federal Funds for Health Care

CHART II

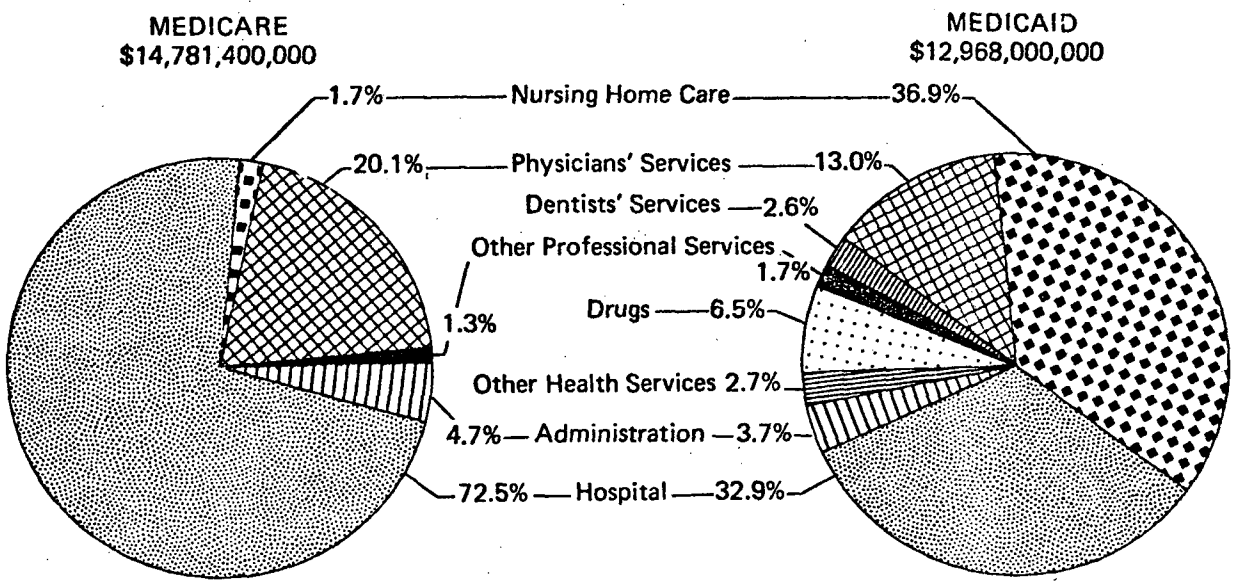
GROWTH OF MEDICARE AND MEDICAID FUNDING IN DOLLARS AND PERCENT OF PERSONAL HEALTH CARE EXPENDITURE, FISCAL YEARS 1967-75



Source: Social Security Administration, Office of Research and Statistics

CHART III

MEDICARE AND MEDICAID PAYMENTS BY TYPE OF SERVICE, 1975



Source: Social Security Administration, Office of Research and Statistics

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